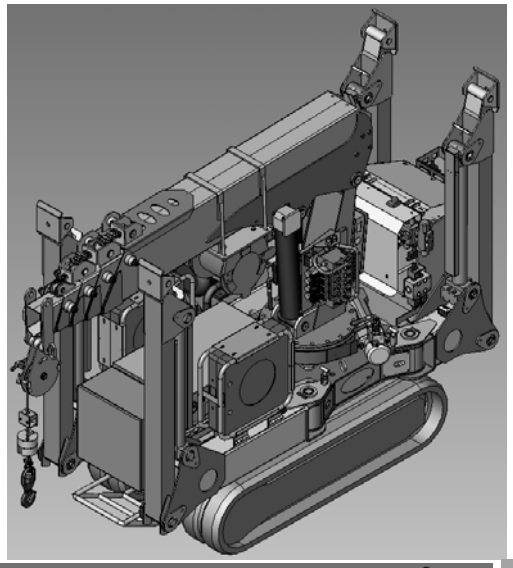
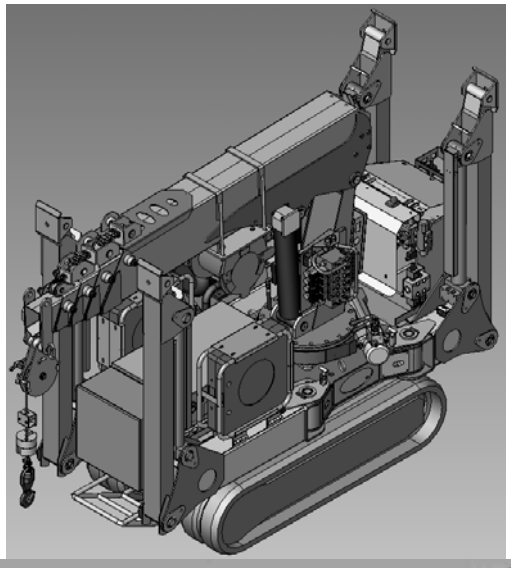
OPERATING AND MAINTENANCE MANUAL

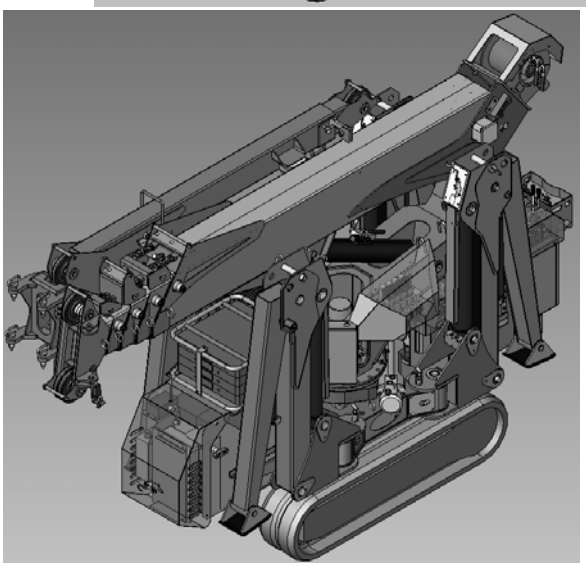
TRANSLATION OF ORIGINAL INSTRUCTION

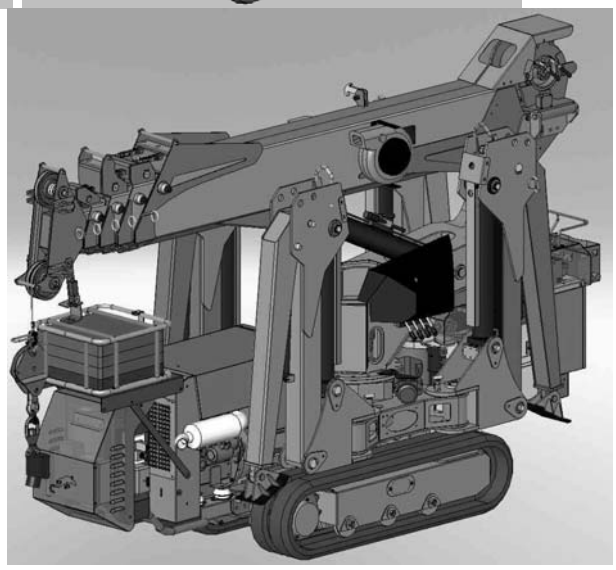
SPD265C+	SPD266C+	SPD360C+	SPD360CDH

SERIAL NUMBER:_____









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MANUAL REVIEW		
VERSION	**DATE**	**REVIEW**
1.0	07/2011	First Print
1.1	01/2014	1 review

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1 PREFACE

1.1 General Information

Each machine is equipped with a copy of this manual.
This instruction manual is intended to facilitate users and maintenance technicians to carry out all of the operations necessary to operate the machine under **safety conditions**.
Only fundamental operations have been described. After practicing with the machine, the user will be able to develop further technical skills.

> **Note:** This manual is an integral part of the machine and must therefore accompany the machine should this be sold, passed on or moved to another place.

A proper training at the moment of delivering must complete the instructions described in this manual.
As regards the accessories, please read their own instruction and maintenance manual.

Keeping the Manual
The Manual shall always be kept with the machine, even in case of sale.
In case of resell of the machine, the manual must follow it in its present conditions, even in case of integrations and modifications sent by the manufacturer.The Manual will always be kept with the machine until its last demolition: for this reason, it must be kept with care in a safe place.
In case this manual was lost or subject to wear, please order another copy from the manufacturer

Ownership information

This manual deals with all normal operations to be performed by the machine and with the main regular maintenance operations required. The instruction herewith provided must be carefully observed in order to properly use the machine. Machine operator training is required to operate the machine. Take care not to perform operations and maintenance not recommended in this manual. Make sure that only suitably qualified and authorized personnel carries out servicing when dismantlement of some parts of the machine is required.
The manufacturer does not undertake any responsibility whatsoever for any direct or indirect damage to objects or pets arising from the use of this manual or the machine in other conditions than those stated herein. ORMET SPA reserves the right to modify or improve this manual and the machines without notice, even those sold under the same model this manual refers to, but having different serial numbers.
ORMET SPA reserves the right to change data equipment without prior notice as well as instructions for maintenance and other measures. The measurements, weights and performance etc. given in this manual are approximate and can vary depending on the equipment.
The CE marking approves the conformity by the machinery **guideline 2006/42/CE**.

Conventions:

Qualified technicians: people who have the necessary expertise, skill and knowledge concerning the standards, safety regulations and service conditions, to recognise and avoid any possible danger for people and damage to the processed materials and to the machine itself.

Right side: Right side of the system, as identified by the operator positioned in the back part of the crane, in front of the switchboard and of the valve bank.

Left side: Left side of the system, as identified by the operator positioned in the back part of the crane, in front of the switchboard and of the valve bank.

Marking

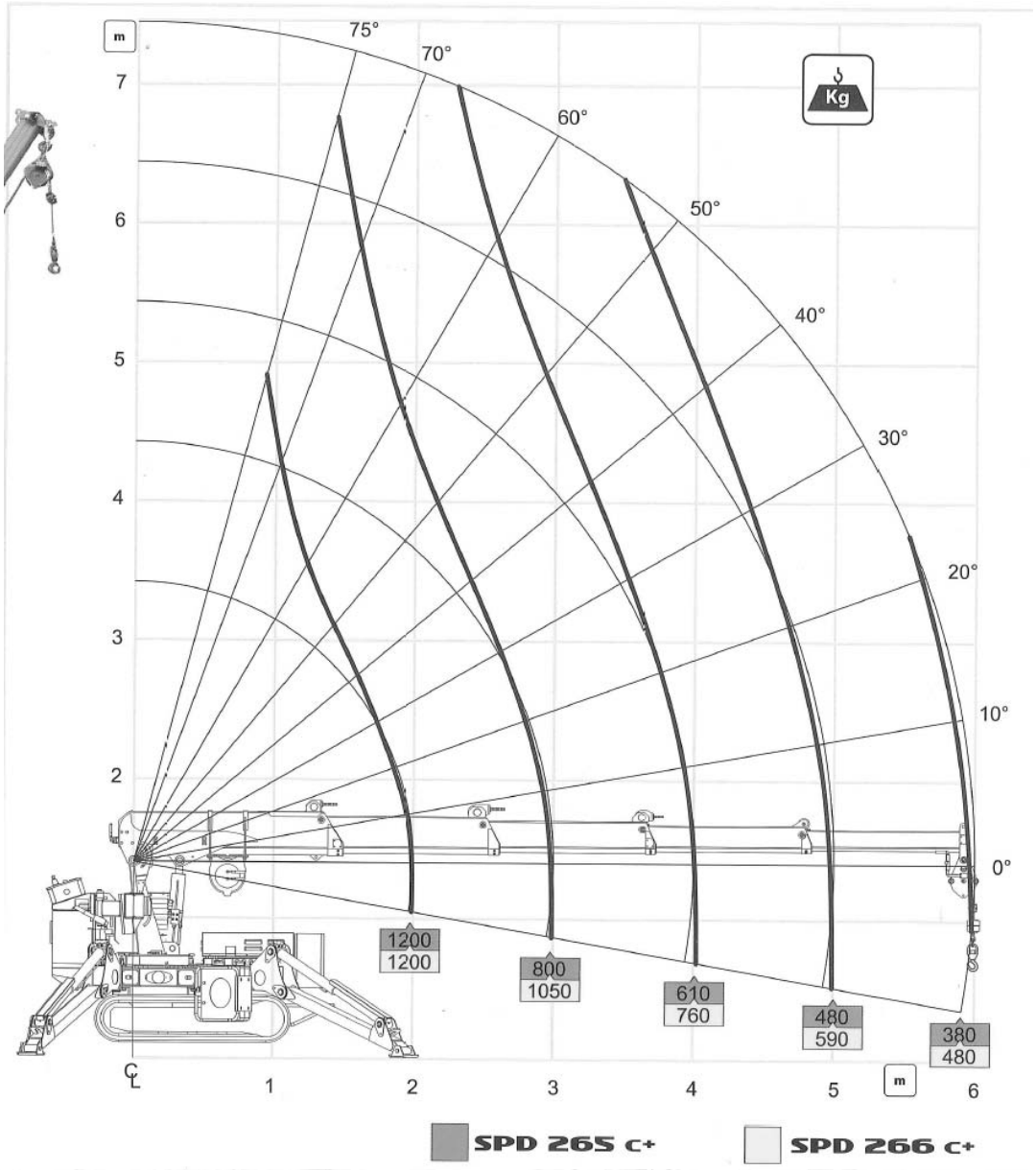
On the right side of the crane frame there is an identification plate bearing the machine's model, manufacturing number, year of manufacturing and weight.The machine is supplied CE-marked where required by the market. The CE marking means that the machine meets the EU's requirements.

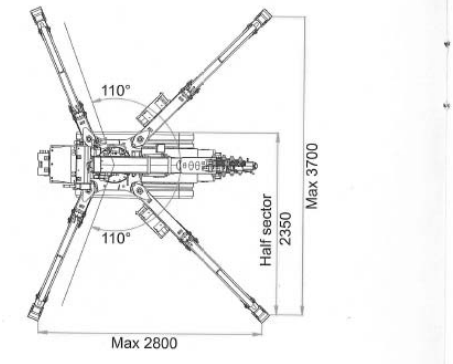
1.2 Technical Specifications

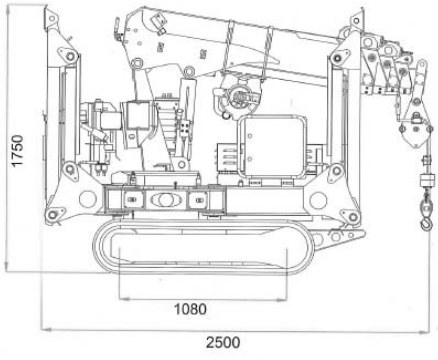
Model	SPD 265C+	Model	SPD 266C+
Loading momentum	*2600 Kgm 18720 lbsft*	**Loading momentum**	*2600 Kgm 18720 lbsft*
Maximum working height	*7 m 22.9 ft*	**Maximum working height**	*7 m 22.9 ft*
Maximum SWL	*1200 kg 2645 lbs*	**Maximum SWL**	*1200 kg 2645 lbs*
Rotation	*220°*	**Rotation**	*220°*
Dimensions	2500x800x1750 mm 8.2x2.6x5.7 ft	**Dimensions**	2500x800x1750 mm 8.2x2.6x5.7 ft
Weight	1.700 Kg 3748 lbs	**Weight**	1.800 Kg 3748 lbs
Max outriggers load	*1400 Kg 3086 lbs*	**Max outriggers load**	*1425 Kg 3086 lbs*
Track area **Max track loadings** **Max Slope Gradient**	1080x230x2 mm 3.5x0.75x2 ft 0.34 Kg/cm^2 20°	**Track area** **Max track loadings** **Max Slope Gradient**	1080x230x2 mm 3.5x0.75x2 ft 0.35 Kg/cm^2 20°
ENGINE	Electric 24V-DC 3kW (4 batteries 6V-240Ah)	**ENGINE**	Electric 24V-DC 3kW (4 batteries 6V-240Ah)
Model	**SPD 360C+**	**Model**	**SPD 360CDH**
Loading momentum	*4300 Kgm 30960 lbsft*	**Loading momentum**	*4300 Kgm 30960 lbsft*
Maximum working height	*9.7 m 31,8 ft*	**Maximum working height**	*9.7 m 31,8 ft*
Maximum SWL	*1800 kg 3968 lbs*	**Maximum SWL**	*1800 kg 3968 lbs*
Rotation	*360°*	**Rotation**	*360°*
Dimensions	3100x800x1750 mm 10.2x6x5.7 ft	**Dimensions**	3100x800x1750 mm 10.2x6x5.7 ft
Weight	2200 Kg 4850 lbs	**Weight**	2200 Kg 4850 lbs
Max outriggers load	*1900 Kg 4188 lbs*	**Max outriggers load**	*1900 Kg 4188 lbs*
Track area **Max track loadings** **Max Slope Gradient**	1080x230x2 mm 3.5x0.75x2 ft 0.44 Kg/cm^2 20°	**Track area** **Max track loadings** **Max Slope Gradient**	1080x230x2 mm 3.5x0.75x2 ft 0.44 Kg/cm^2 20°
ENGINE	Electric 24V-DC 3kW (4 batteries 6V-420Ah)	**ENGINE**	Diesel liquid cooled 14.9/20 kW/hp EPA TIER4 12V (tank 6 Liter)

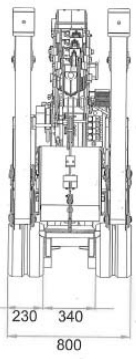
DIMENSIONS AND LOADING DIAGRAM OF THE CRANE WITH HOOK

SPD265 - SPD266

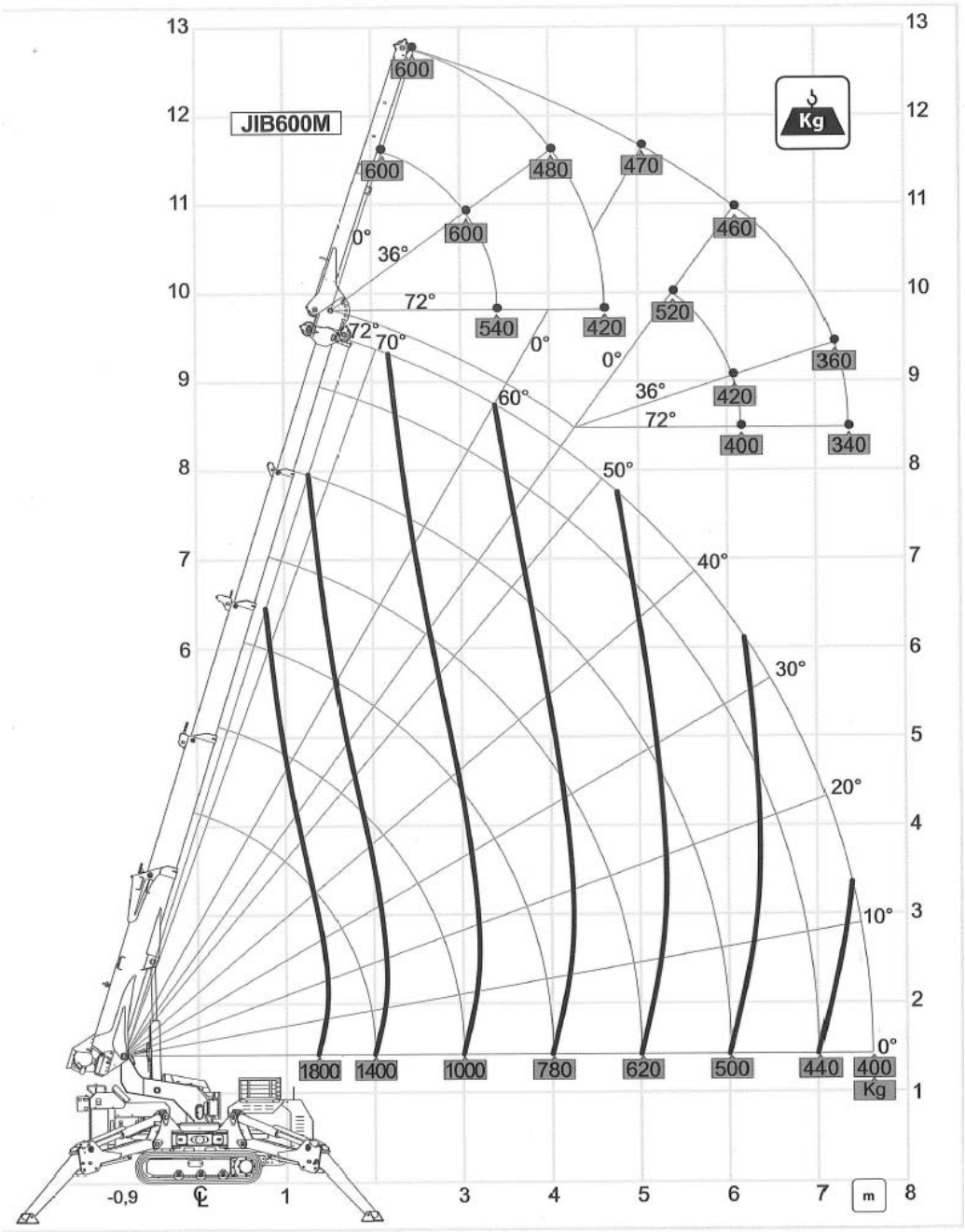


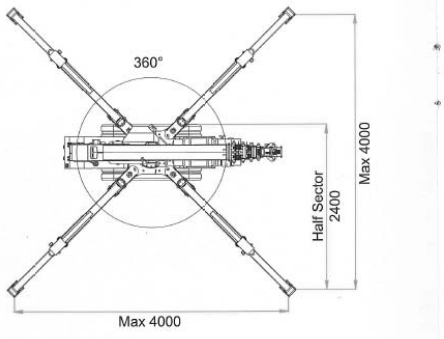


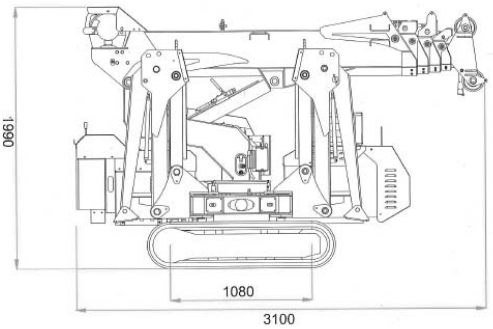


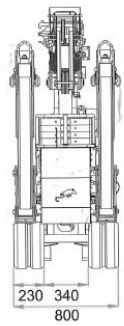


SPD360C+ SPD360CDH

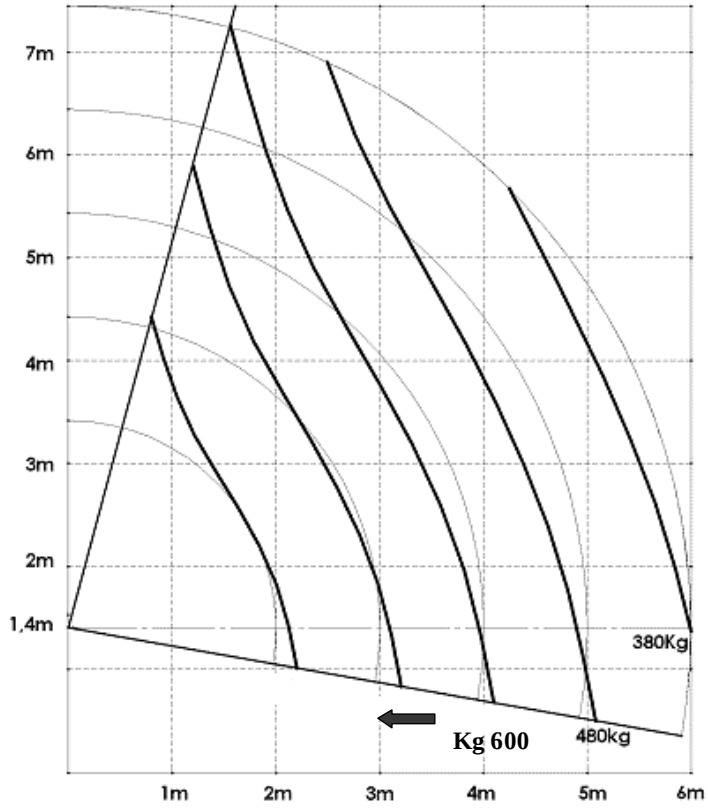








WINCH LOADING DIAGRAM



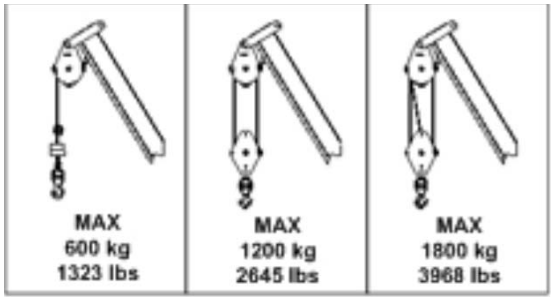
The winch capacity is of 600 kg (see the winch CE plate).

The load limiting device avoid the machine tilting while using the winch. In any case, the operator has to make sure not to lift loads exceeding the boom capacity.

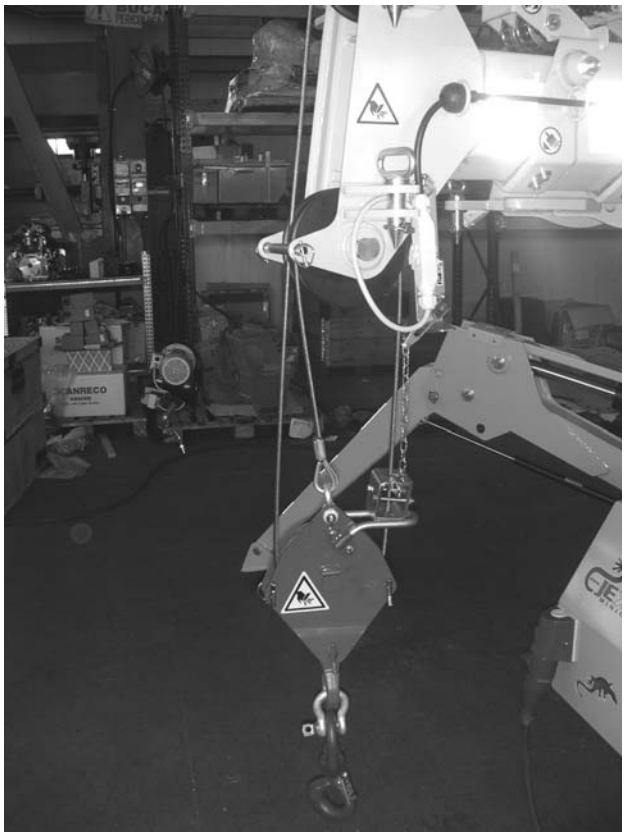
Within the 600-kg loading capacity, the boom can lift loads exceeding the winch capacity thus activating the load limiting device. In order to lift heavier loads it is necessary to modify the pulley configuration by using a single, double or triple line pull.

The rope replacement or shortening has to be carried out by specialized technicians, only.

In order to increase the rope lifting capacity it is necessary to assemble the hook device as indicated in the picture and to set the machine by means of the switchboard. Every machine is equipped with a chart, as the one indicated in the picture, which indicates the winch lifting capacity depending on the configuration chosen.



Double line pull



Triple line pull

1.3 Original Seals

The manufacturer has placed lead sealings on machine components to assure working under safe conditions.

ORIGINAL SEAL REMOVAL WILL CAUSE MACHINE UNSAFE WORKING. THE MANUFACTURER DECLINES ANY RESPONSIBILITY ARISING FROM UNSAFE USE OF MACHINES.

1.4 Operator Training

Technical training is required to the operator in order to correctly operate this machine. ORMET SPA qualified personnel is available to train your personnel in many European countries. Contact your dealer for more information. If you can not find a dealer in your country please call ORMET SPA.

1.5 Intended use

The machine has been designed to handle loads by means of a lifting hook, a winch or an accessory jib: loads must not exceed the load diagram printed or labelled on the crane. The models SPD265C+ _SPD266C+ _SPD360C+ are intended for internal use only.

- All uses not expressly declared in this manual are to be considered not intended, especially any use different from those described in this manual.

CAUTION!
Inside the European Community its forbidden use the machine to lift people

ATTENTION
THE MACHINE HAS NOT BEEN PROJECTED TO LIFT PEOPLE, IT DOESN'T RESPECT THE SAFETY REQUIREMET OF THE U.E. NORMATIVE FOR THIS KIND OF LIFTING. PLEASE CHECK LOCAL STANDARDS

1.6 Warranty

ART.1 This warranty cancels and replaces any other kind of explicit or implicit warranty; any variations shall have no effect unless stated in a document issued by ORMET SPA Any disputes as to the interpretation or fulfilment of the warranty conditions shall be submitted to the jurisdiction of the court of Conegliano (TV).

ART.2 ORMET SPA' s warranty will expire after 12 months from the day of delivery of the machine to the final user. Within this period, IMAI S.r.l. shall replace free of charge any parts that have manufacturing defects in ORMET SPA 's opinion.

ART.3 The warranty shall not cover any labour involved in assembling and dismantling the machine to replace the faulty parts, nor any transport costs for the delivery of the replacement parts. The warranty doesn't include goods damaged or perished after the forwarding from the factory.

ART.4 Under no circumstance is expected a refund for the machine's stop working because of the fault and the repairing. Delays on repairing don't give right to refund or extension of the warranty.

ART.5 The warranty does not include deficiencies and defects due to the normal wear of component parts that are usually subject to rapid and continuous wear (oil, grease, brass, ecc.). As for hydraulic devices dilate cylinders and bended piston rods are excluded because those events are caused by not right loads or not right movements of the machine.

ART.6 All requested spare parts should be invoiced at the price-list in force at the time of the enquiry. ORMET SPA shall acknowledge any right to replacements under warranty by means of a credit note.

ART.7 Equipment not manufactured by ORMET SPA and applied to ORMET SPA products – such as engines, electrical components and others – are not covered by this guarantee but by their own manufacturer's guarantee. ORMET SPA will warrant to its customers only and all the terms of the manufacturer's guarantee.

ART.8 The buyer shall not be entitled to interrupt payments or other obligations related to the purchase, even in case of a valid complaint. This warranty cancels and replaces any other kind of

explicit or implicit warranty; any variations shall have no effect unless stated in a document issued by ORMET SPA.

ART.9 The warranty claim will be effective only if it is returned with the delivery verbal to ORMET SPA. within 30 days from the date of delivery of the machine. All warranty claims will have to be submitted to ORMET SPA within 8 days from the moment the damage occurred.
The warranty will expire in case of:

- Improper use of the machine (not complying with the instructions given)
- Non authorized modifications, repairs and dismantling (carried out by technicians non authorized by ORMET SPA)
- Use of non authorized accessories or accessories not fit for ORMET SPA's machines
- Wrong installation of the accessories and equipment the machine is supplied with
- Damages due to accidents, negligence, non-performance of periodical maintenance, use of non genuine spare parts
- Damages due to exceptional events.

Tampering with the safety seals placed on the valves or on the accessories will cause the warranty expiration and will release ORMET SPA of whatever liability.

Further information on responsibility

THE MANUFACTURER DECLARES HE WILL BE RELIEVED FROM ANY RESPONSIBILITY OR LIABILITY UNDER WARRANTY IN CASE OF:

1. *Improper use of the machine*
2. *Tampering with the machine or with its component parts*
3. *Machine used by not authorized personnel*
4. *Serious maintenance shortage*
5. *Partial or complete non-observance of instructions*
6. *Non-topping up of lubrication system in the periodical checks and non-filling in of relevant reports*
7. *Non-performance of periodical checks*
8. *Use of non genuine spare parts (spare parts not recommended by the manufacturer)*
9. *Non authorized modifications and repairs*
10. *Exceptional events*

2 SAFETY INFORMATION

The designing and manufacturing of this machine is based on specific safety criteria in compliance with the rules indicated on the CE certificate:
A careful risk assessment, carried out by the manufacturer, has allowed to remove the major risks connected both to scheduled and to rationally foreseeable operative conditions. Complete records about safety measures adopted can be found in the technical manual of the machine, which is kept by the manufacturer.
The manufacturer strongly recommends to follow all operative instructions and procedures herein described and to observe all safety rules at work, above all as regards both personal protection equipment and machine safety equipment. L'accurata analisi dei rischi svolta dal fabbricante ha consentito di eliminare la maggior parte dei pericoli connessi alle condizioni d'uso della macchina, sia previste che ragionevolmente prevedibili.

2.1 Rules

Some operative rules should be applied in order to best preserve environment and the operator's safety.

The operator

- He must be a healthy person
- He must be responsible
- He must have sense of direction
- He must act with circumspection when operating with the machine and be able to estimate dangers and working conditions.
- He must have quick reflexes.
- He must have very good powers of concentration.
- He mustn't be used to drink alcohols and to take drugs!

The operator must not wear:

- rings;
- watches;
- jewellery.
- torn clothes;
- scarves;
- unbuttoned shirts or smocks;
- jackets not zipped up;
- other clothes which could cause dangers with parts in motion

General directions

1st regulation

- Preserve your own safety!
- Preserve environment and animals!
- Take care nobody is exposed to dangers!
- Don't get on the machine, slipping danger!

2nd regulation

- Use personal protection equipment! (DPI)
- Be careful about sharp corners!

3rd regulation

- Prohibit unauthorized and untrained staff from using the machine!
- In case of alternation, the manual must pass from one to the following operator.
- Always operate with calm, precision and concentration!

Keep the machine clean in all of its component parts: handling members, switchboard and signalling apparatus.

- **Don't smoke.**
- **Don't use open fires.**

2.2 Noise

If workers are exposed to a time-weighted average (TWA) sound level of 85dB or more, hearing protectors are recommended. Hearing protectors must be worn by all operators exposed to a TWA of 90dB or more.

2.3 Conveyance of instructions

This chapter of the manual is intended to facilitate possible operations in case of change of operator and in case of inheritance of the machine due to sale.

THE OPERATIVE RESPONSIBLE OF THE MACHINE IS
THE ONE WHO,
having picked up the machine at the manufacturer's,
ACCEPTS THE ROLE OF OPERATOR.

BUT

The machine can be picked up for the purchaser by someone else, who won't be the final operator or owner.

ⓘ In this case, the one who picks up the machine will not be responsible for the machines, but **WILL TAKE UP THE ROLE OF "TEMPORARY OPERATOR"** ONLY UNTIL THE MACHINE IS DELIVERED TO THE PURCHASER.

ⓘ Each "temporary operator" must receive the machine operative instructions from the manufacturer and convey them to the person who, later, will be the effective machine **OPERATOR.**

BE CAREFUL!
When in the firm the same machine is to be used by more than one operator, working instructions as well as the use and mainetance manual must be conveyed to all the operators in charge of the machine.

How to convey the machine instructions

Train the new operator (or the new owner) properly.

- → Make sure the operator understands instruction on safe operating and safety devices.
- → Make sure the operator understands the information pertaining the machine's dangerous zone and component parts.
- → Give the operating manual to the new operator (or to the new owner) and explain its contents to him.
- → Tell him about the existence of the Declaration of Conformity and of the CE marking
- → In case of resell, give the Declaration of Conformity to the new owner, and tell him about the hallmarks.
- → Be sure the new operator has correctly understood the instruction and has no doubts about the machine's functioning.

How to prove the conveyance of instructions

Considering that a proper knowledge of the machine is absolutely necessary and that the operator, when ends its operative role, is no more responsible for it, we have prepared some forms intended to prove the machine has been correctly picked up at the manufacturer's site (**Declaration of responsibility**) and it has been properly conveyed in case of resell.

Lacking or incorrect conveyance of instructions and of the manual could cause involvement in (also penalty) punishment in case of environmental damage or harm suffered by persons, things or animals.

IN SHORT

☞ *Inform and train the new operator*

☞ *Give him the manual and highlight safety instructions*

☞ *Fill in the form in all details and sign it*

☞ It is in the conveyor's interest to take and keep a copy of the page proving the correct conveyance.

2.4 Dangerous zones

There are some very dangerous zones near the machine.

The dangerous zone is determined by the field of action of the crane.

It is absolutely forbidden to stay under hanging loads

There could be further dangers in the working area: please, observe the following rules

Don't work near electric wires, danger of death in case of contact with electric wires. While working, keep the following minimum distance from the power line:

Voltage (KV)	Min dist. Insulated electric wire (m)
<1	3
1< Un <= 30	3.5
30< Un <= 132	5
> 132	7

2.5 Emergency stop

Note: This procedure can be performed in any moment.

In compliance with the safety rules in force, the machine has been provided with emergency devices. They must be operated to reduce the stopping time when the usual stop procedure would not enable actual or impending danger to the operator or to the machine itself to be averted.

CAUTION!!!

Before putting the machine back into service, remove the cause of danger.

Location of emergency devices

The machine has been provided with several types of emergency devices.

- Emergency push-button - located on **main switchboard**
- Emergency push-button - located on **radio remote control**

About emergency devices

The main features of the installed emergency devices are:

Mushroom-shaped emergency push-button;

PUSH the mushroom-shaped button to stop the machine.

Machine back into service after emergency

In order to avoid unintended start-up, the emergency state remains active until the machine is put into service.
To put the machine back into service:

Note: Before putting the machine back into service, remove the cause of danger.

→ Find out the push button used to activate the emergency state;

→ Rotate the mushroom-shaped button in the direction indicated by the arrows printed on it;
→ The push-button is now backing in service and the machine is ready to work.
→ Push the turn on engine button to start-up the machine

2.6 Daily check

Daily checks to be performed before starting the machine:

- Check hydraulic oil level
- Verify there is no visible oil leakage
- Check safety micro-switch. Remove possible mud, grease, etc. residues without using metal tools.
- Test safety systems
- Carpentry condition visual check
- Check outriggers efficiency
- Verify safety labels are present and readable
- Make sure the working area is ventilated as batteries produce explosive gases
- Check greasing of the machine
- Check oil level engine

2.7 Features of the working area

To avoid unpleasant troubles or even accidents working areas have to meet specific requirements such as:

- Enough space to allow outriggers setting according to the different handling necessities
- Ground slope smaller than 5 %
- The foots of the outriggers must lay on solid ground, without manhole, cover, etc.
- Check power supply availability at the voltage required by the machine and in conformity with the rules in force.

In case the machine has to work on upper floors, verify their maximum loading capacity according to what indicated in paragraph 'Technical Specifications'.

CAUTION!!!

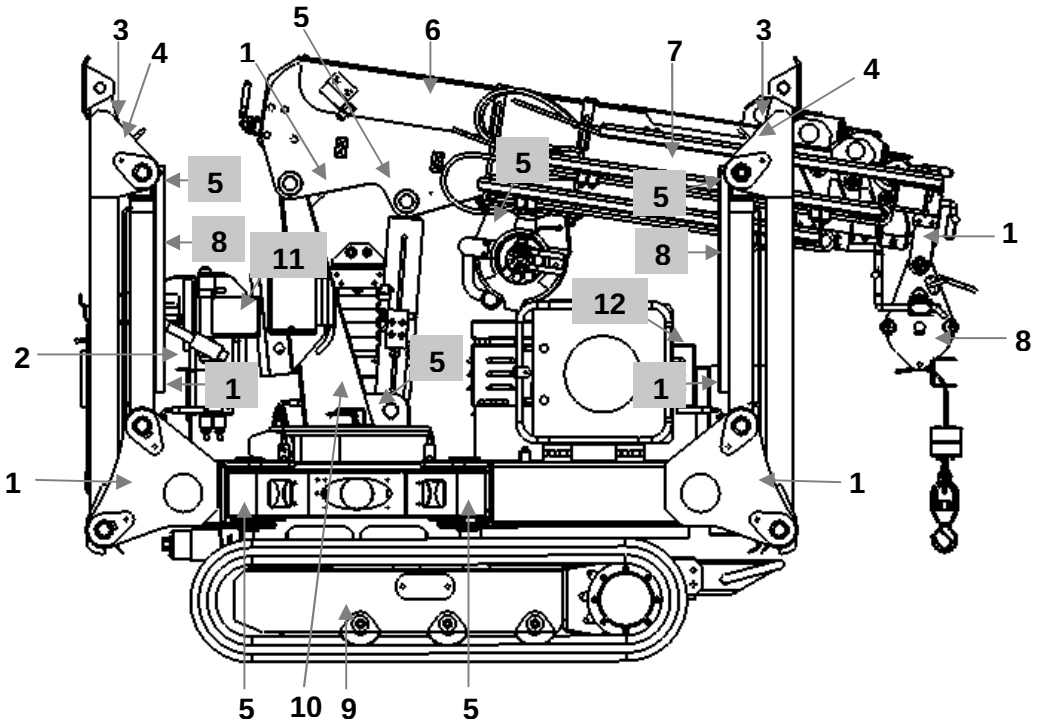
Don't work on floors without having verified their loading capacity. The manufacturer declines any responsibility arising from damage or collapse.

2.8 Working in bad weather conditions

CAUTION!!!

It is forbidden to work with the machine in case of wind or storm condition.

2.9 Labels SPD 265C+ / SPD 266C+



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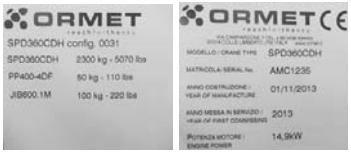
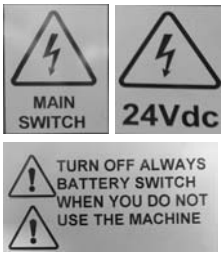
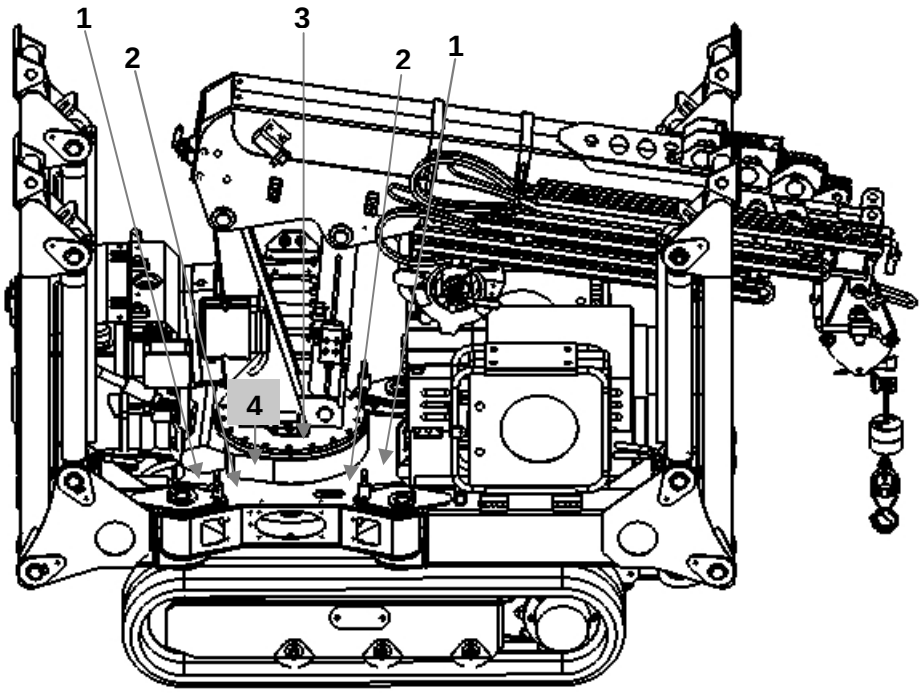
10		11		12	



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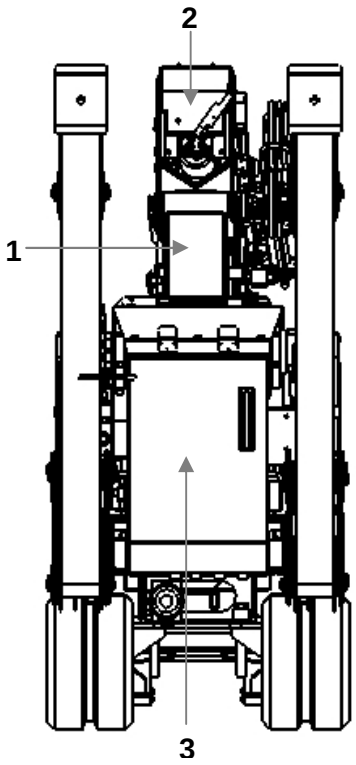

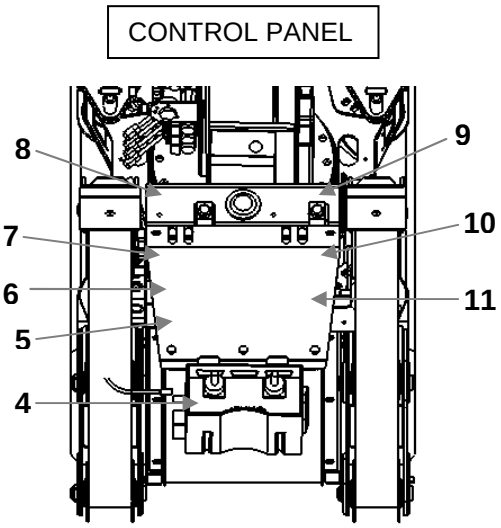

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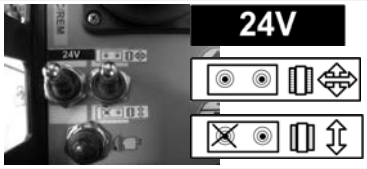
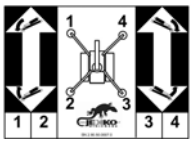
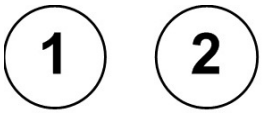
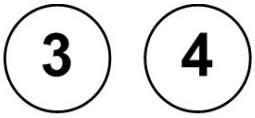
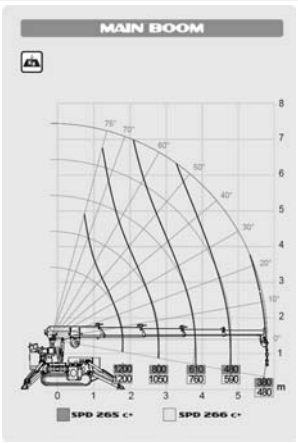
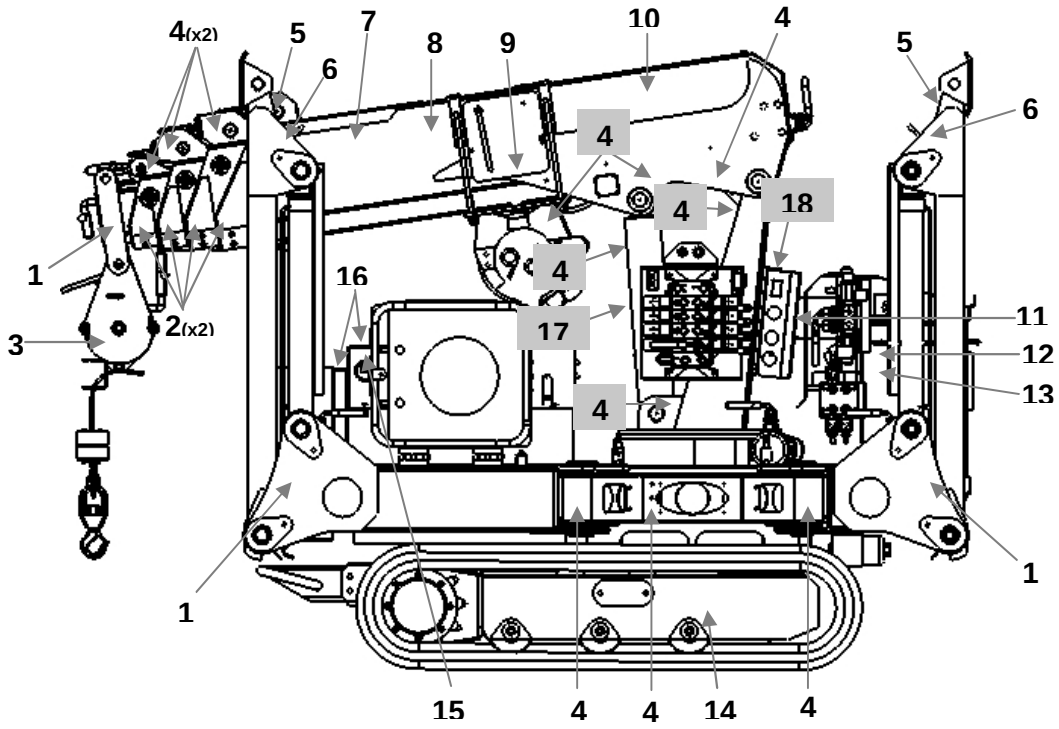
4		5		6	
7		8		9	
10		11			



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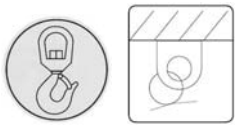
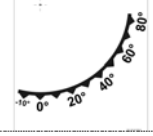
4		5		6	
7		8		9	
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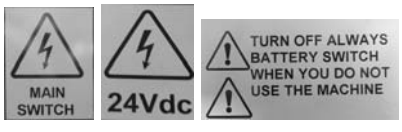
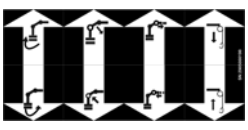
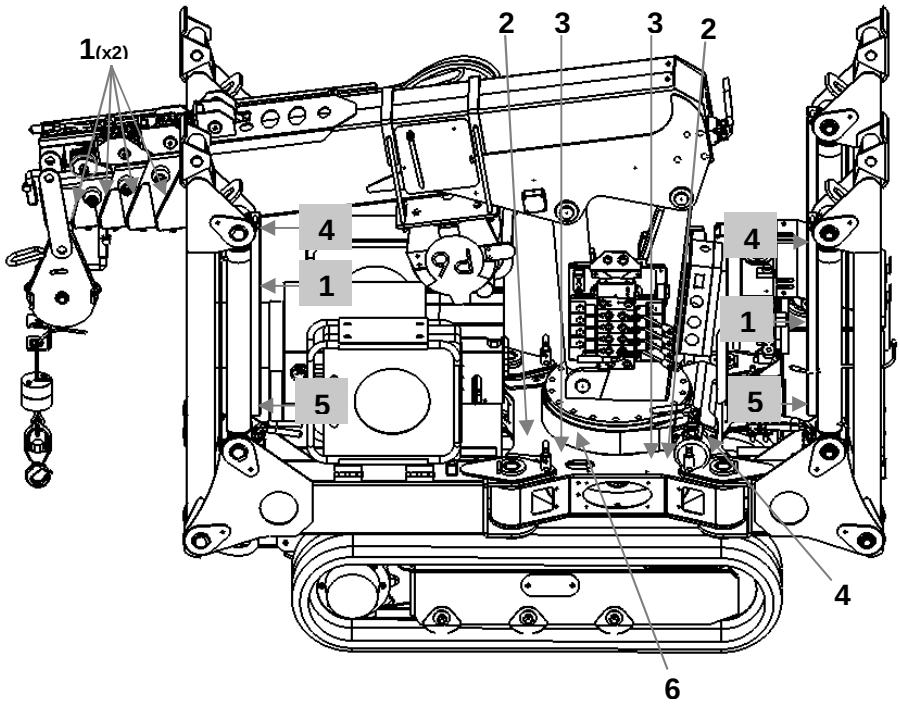
13		14		15	
16		17		18	



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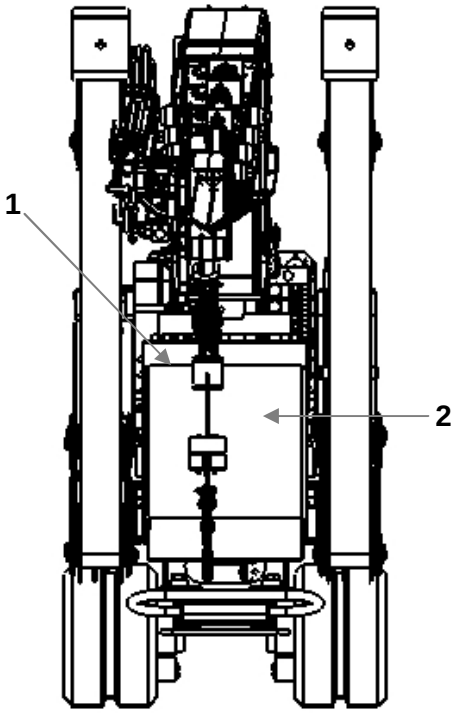
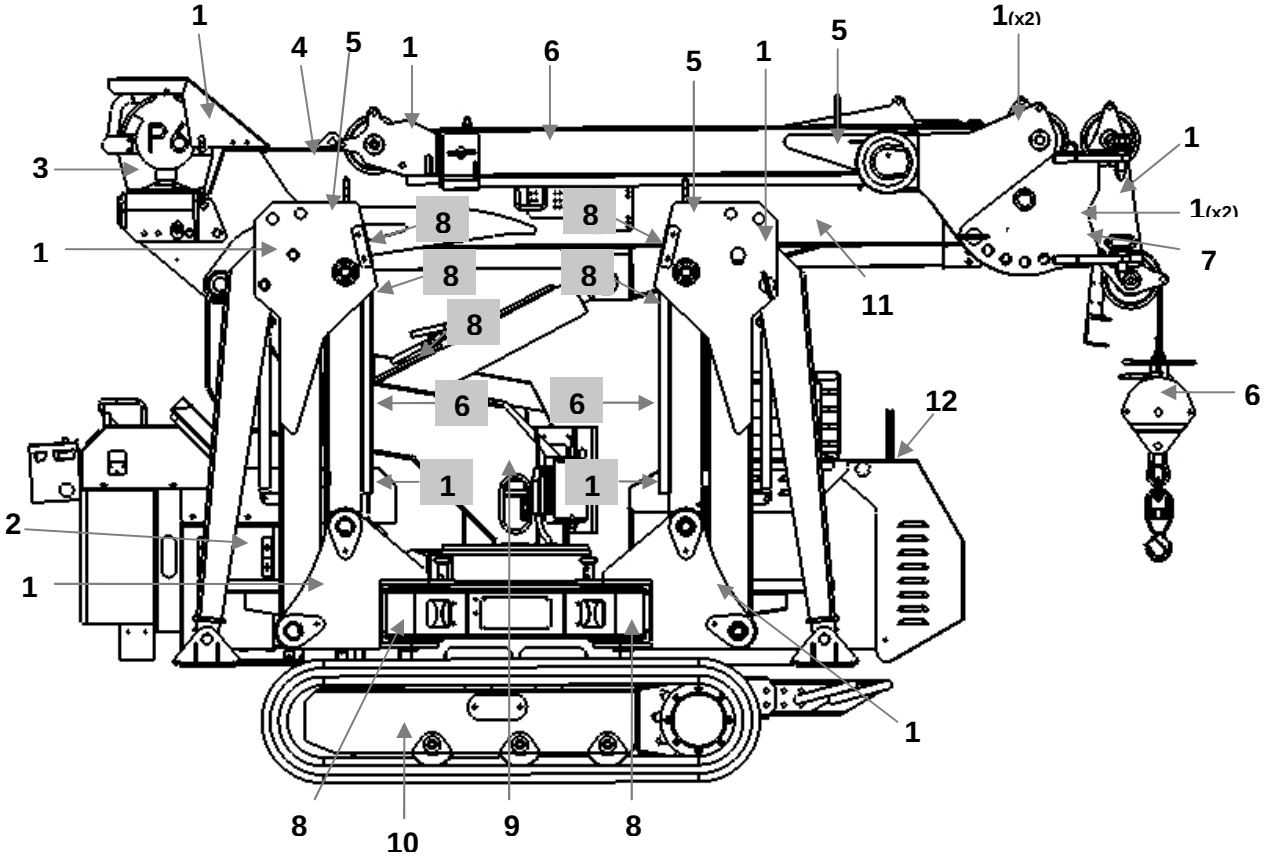


1		2	SPD 265C SPD266C

2.10 Labels SPD 360C+ / SPD 360CDH

SPD 360C+



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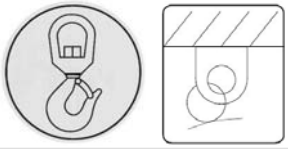
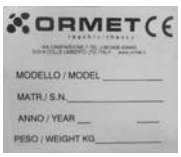
4		5		6	
7		8		9	
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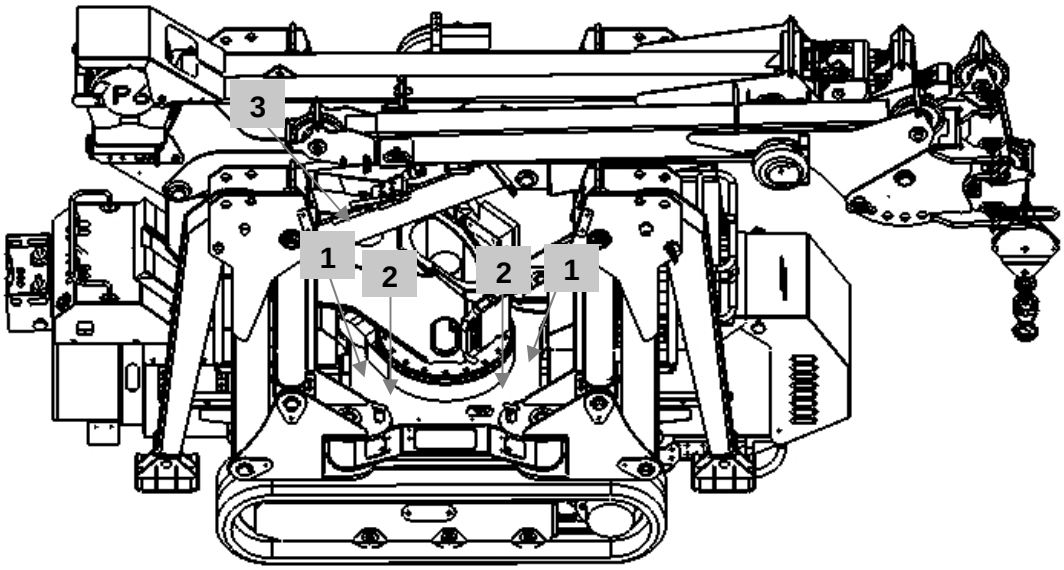

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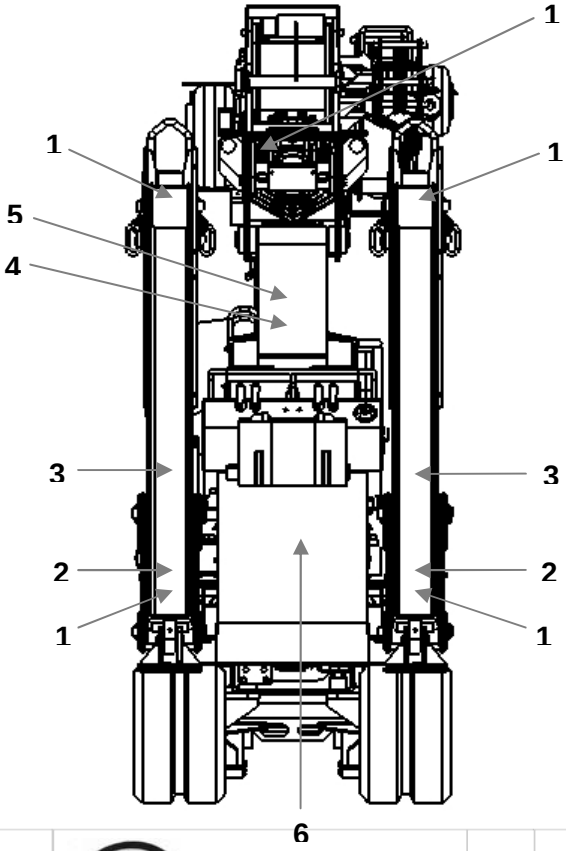
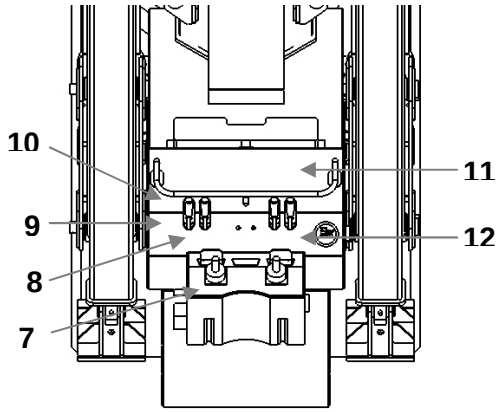


CONTROL PANEL



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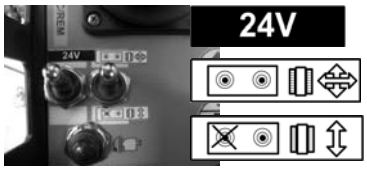
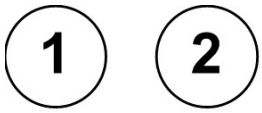
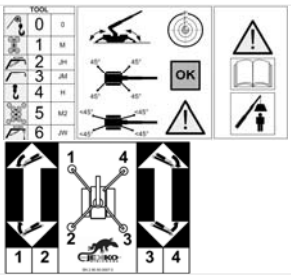
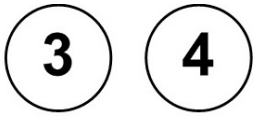
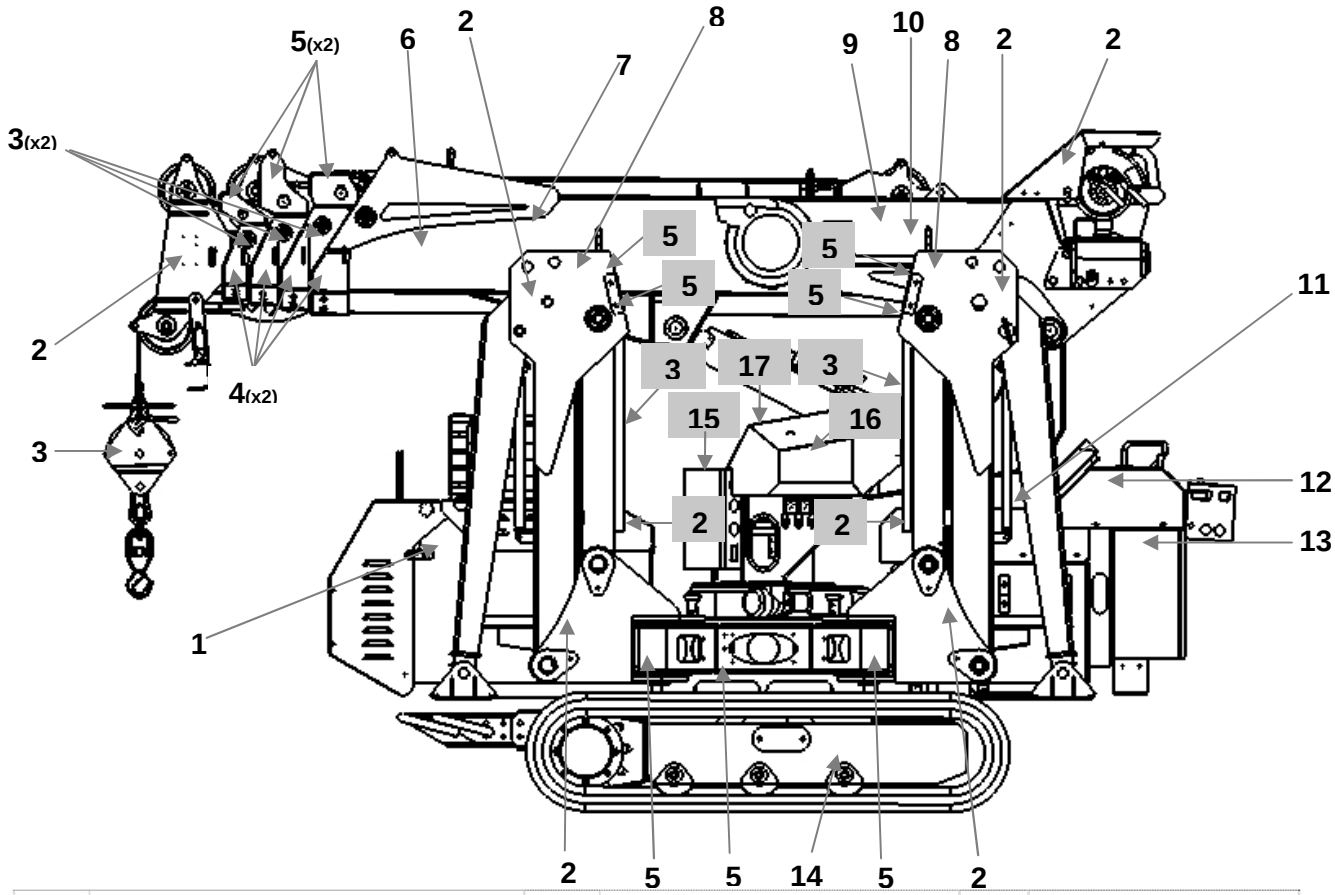
7		8		9	
10		11		12	



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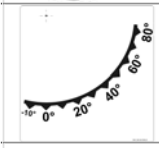
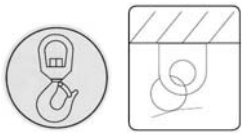
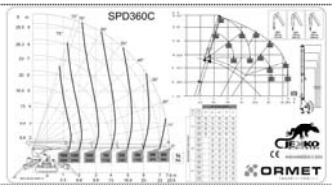
7		8		9	SPD 360
10	MANIPULATOR ⬍ WINCH	11		12	
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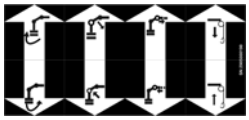
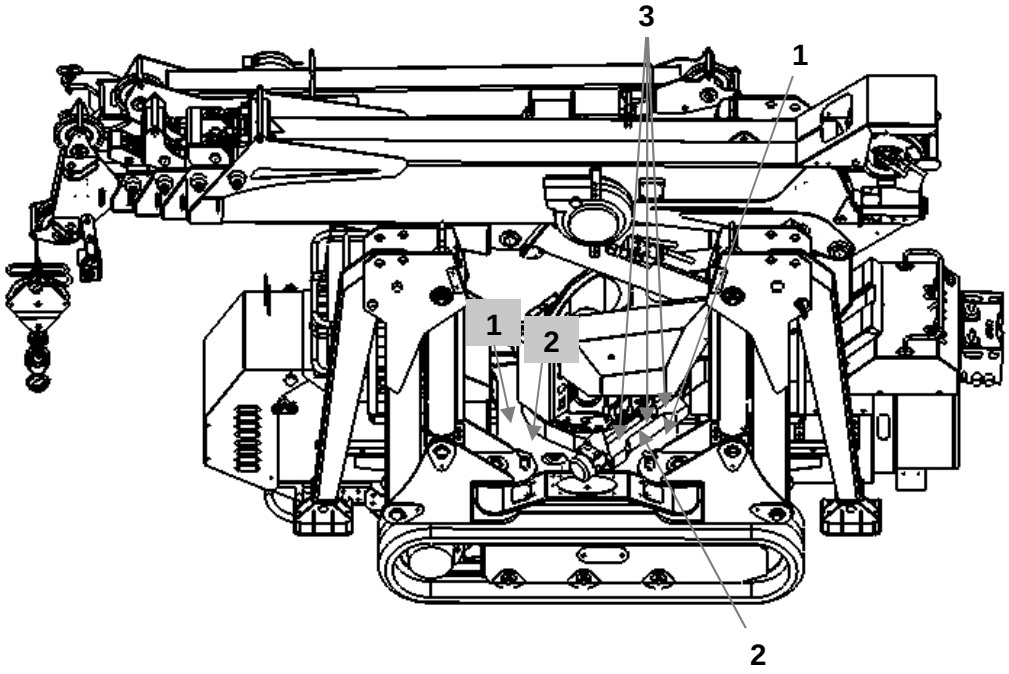
16		17			



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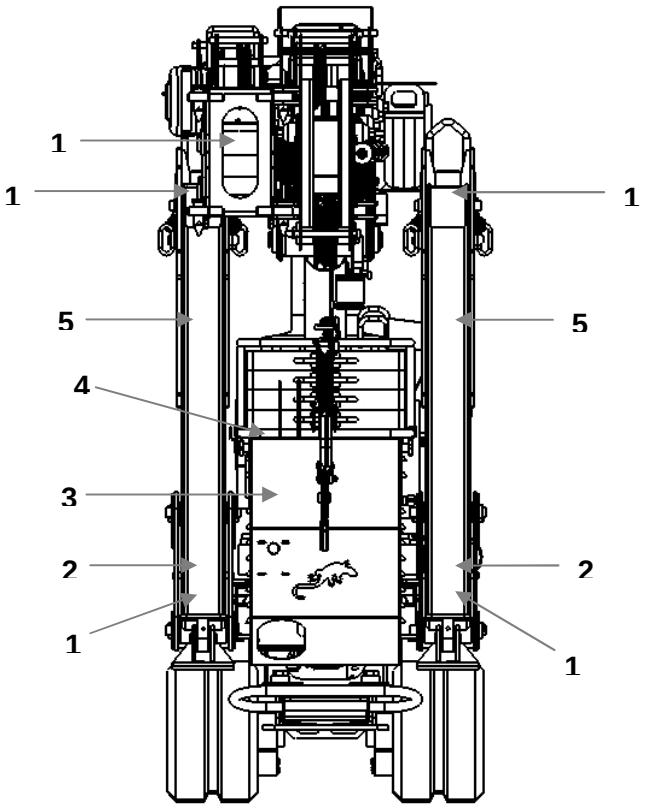

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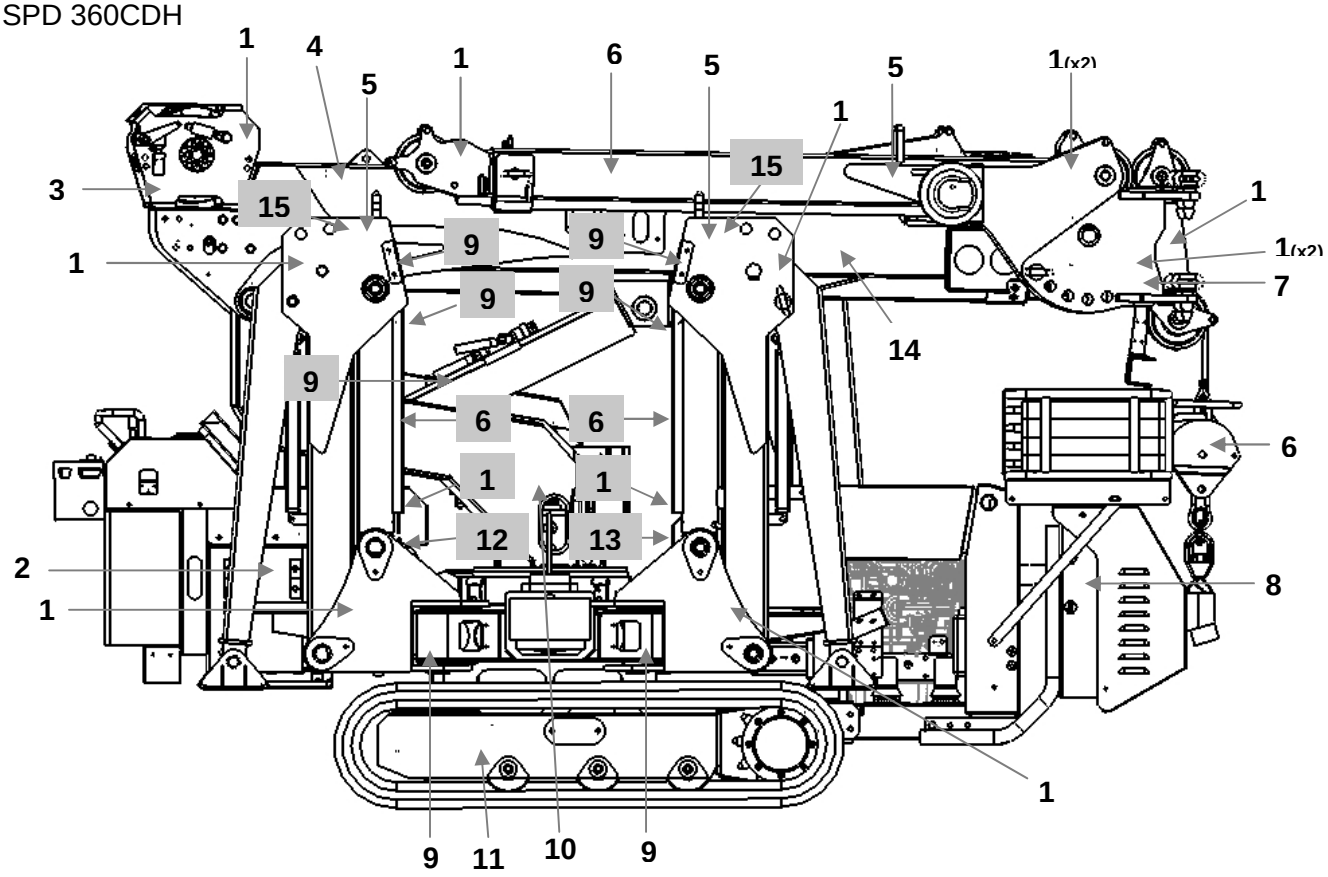
4		5			

SPD 360CDH



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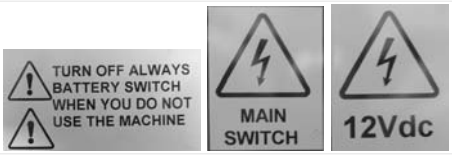
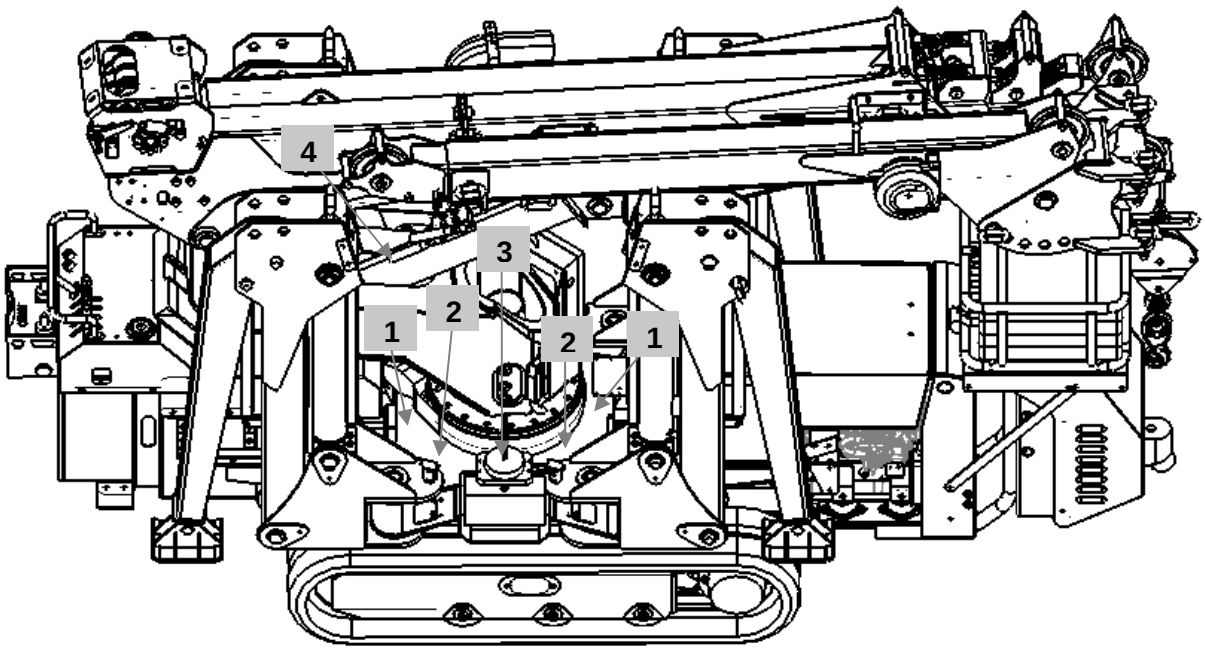
13		14		15	



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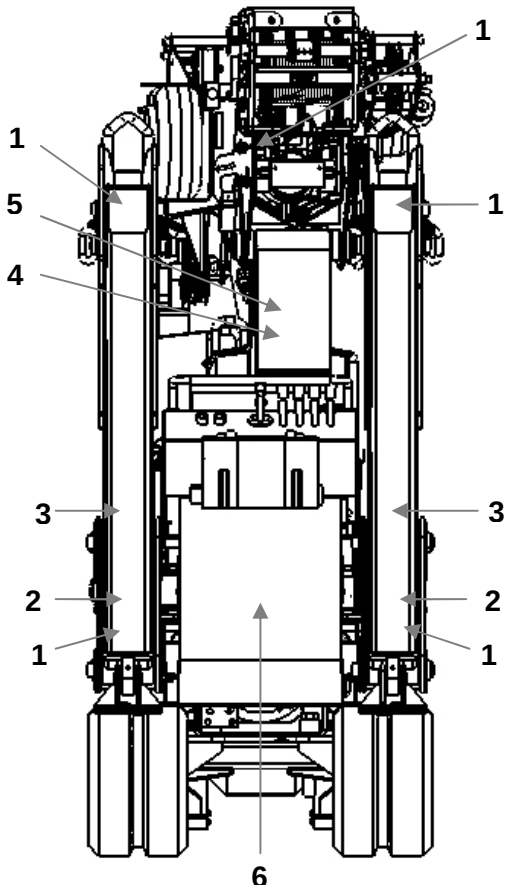
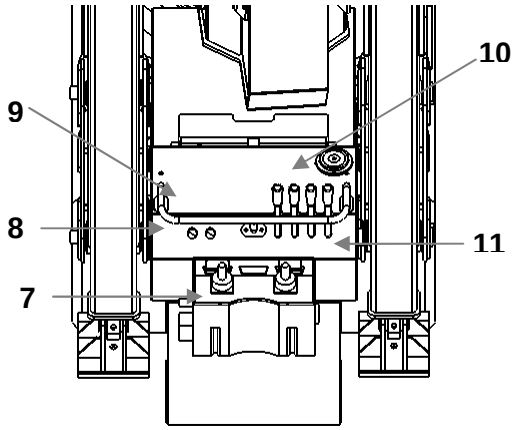


CONTROL PANEL



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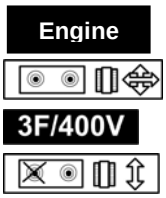
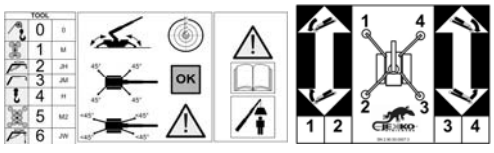
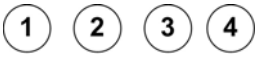
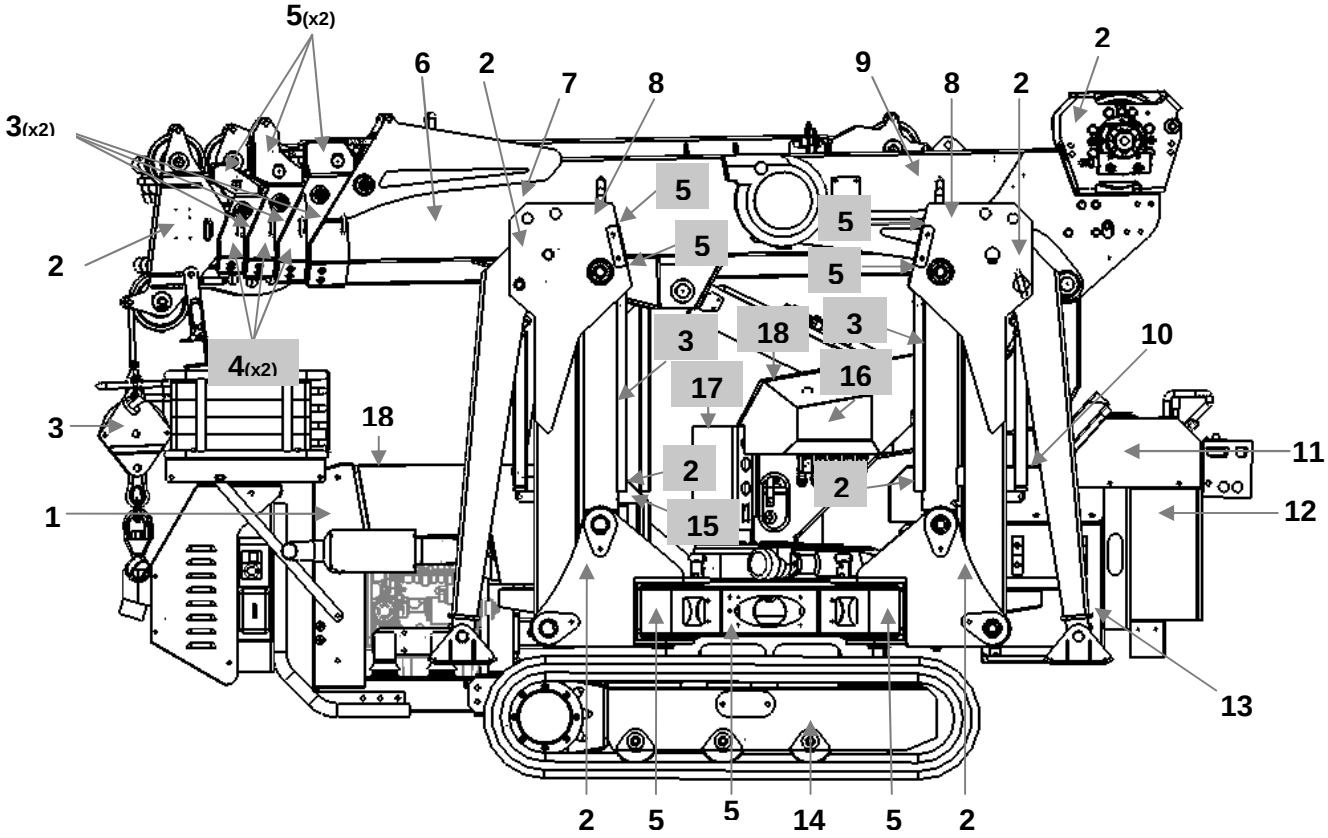
7	 	8		9	
10		11			



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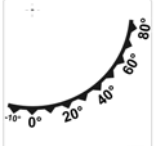
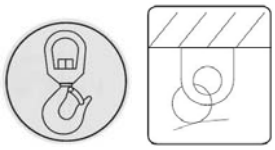
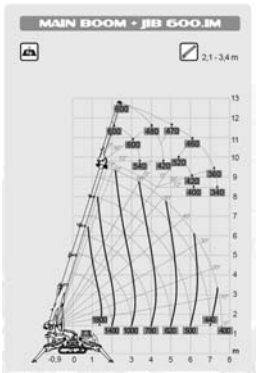
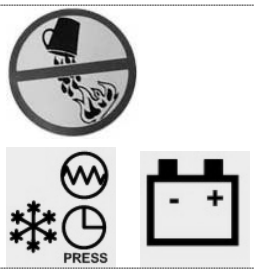
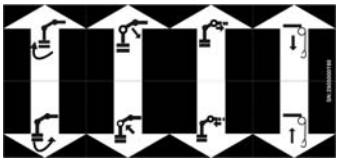
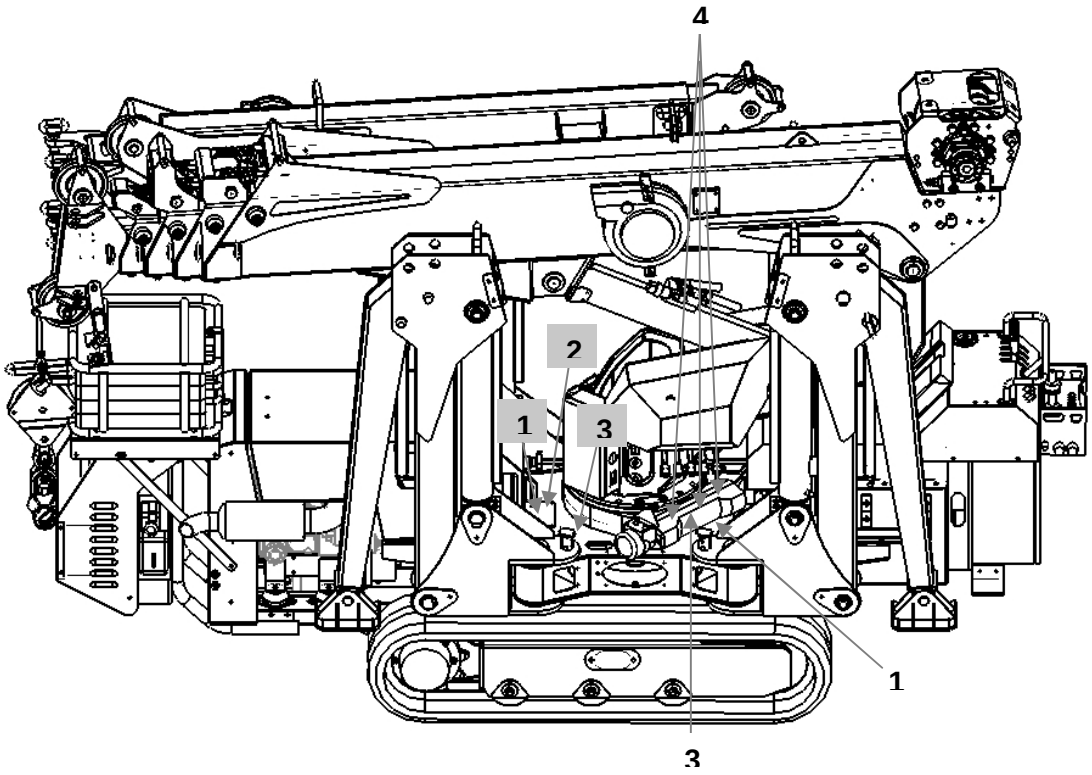
7		8		9	SPD 360
10		11		12	

13		14		15	
16		17		18	



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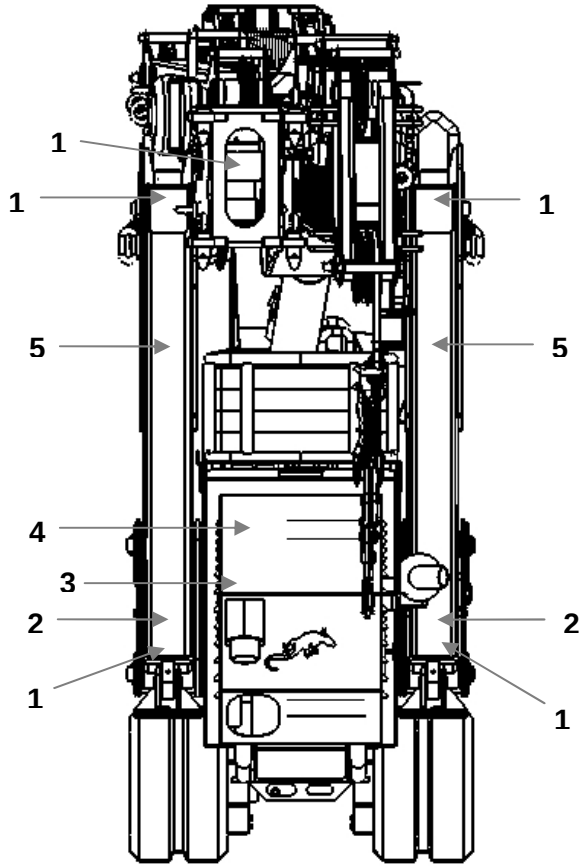
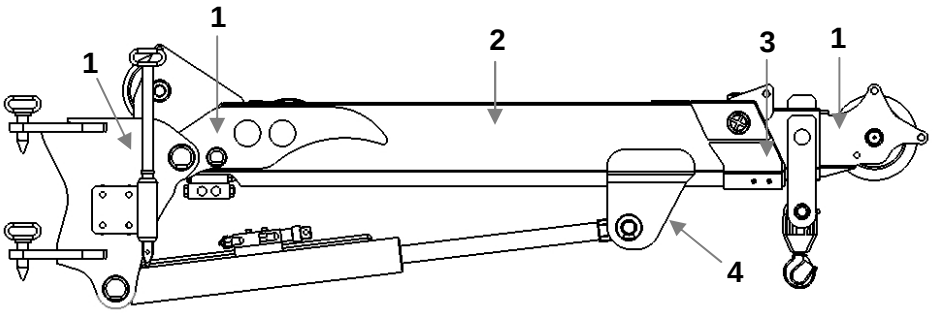
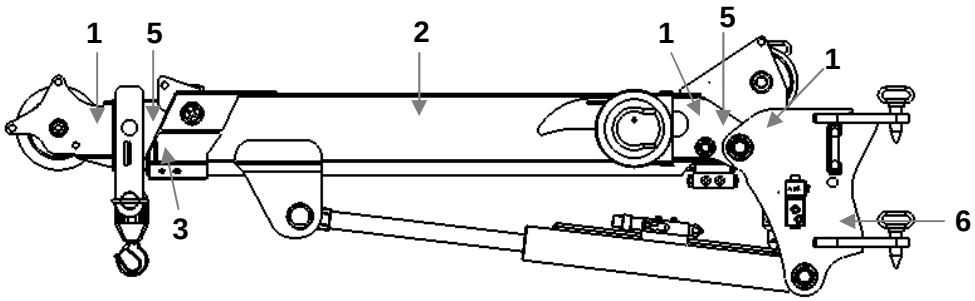


1		2		3	
4	SPD 360	5			

JIB800.1H





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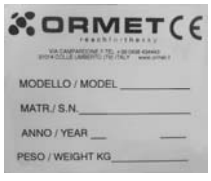
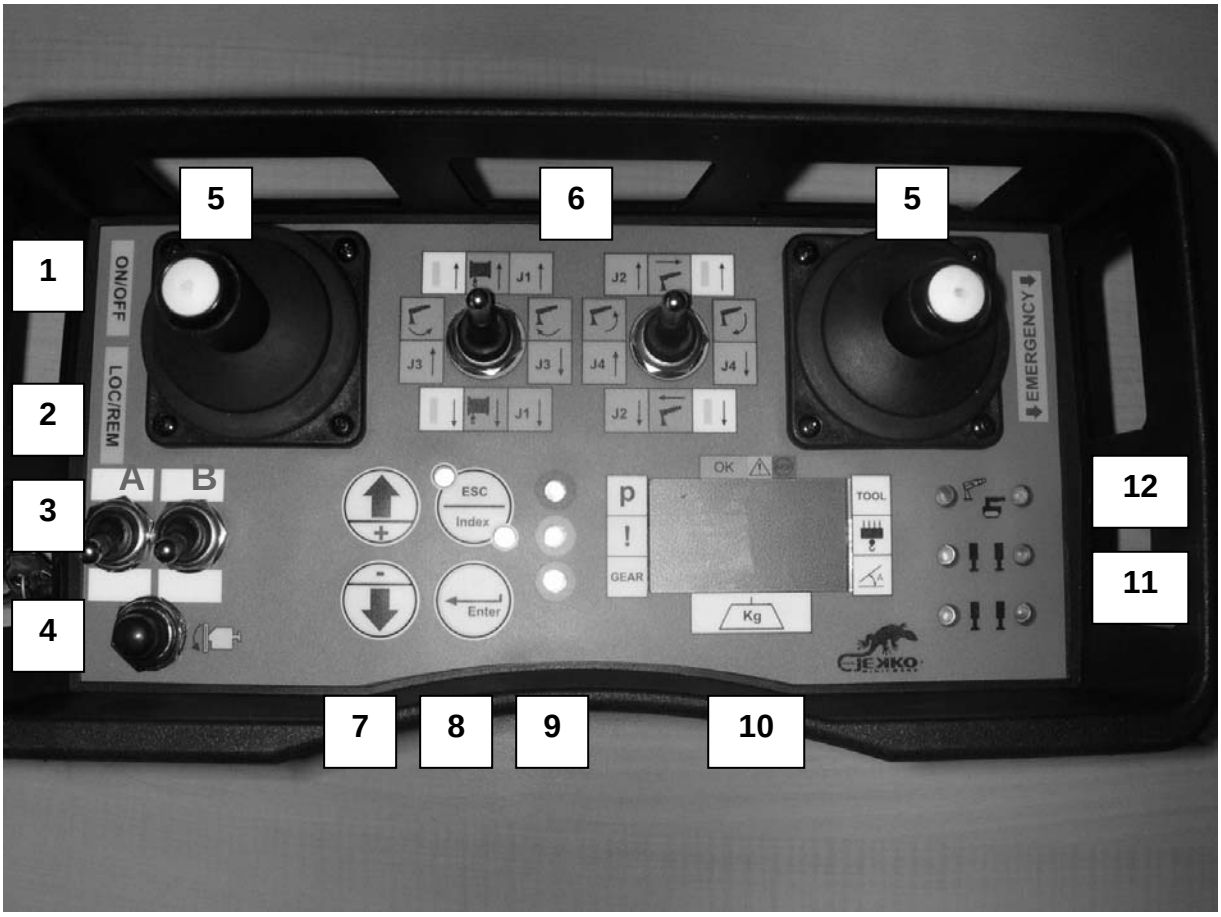
4		5	HOME POSITION	6	

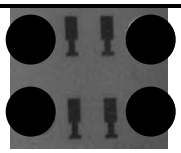
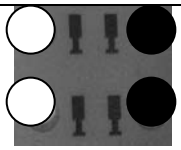
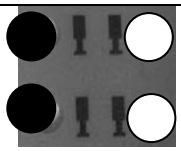
3 MACHINE SIGNALS AND CONTROLS

3.1 Main switchboard



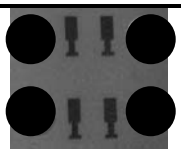
Ref.	Descrizione
1	Panel on/off key switch
2	Locale/remote key switch
3	**A** >Switch 24V-3F/400V **B** > One joystick track movement front and back switch
4	Engine ignition push button and machine start –up
5	Control joystick – activation by pressing on the push button
6	Move key switches for crane (switch UP) /Jib (switch DOWN)
7	Display scroll keys
8	Display ESC/ENTER keys
9	Flashing LEDs
10	Display
11	Signal LEDs for stabilizers

12	Signal LED for crane/truck activation

● **LIT LED** ○ **FLASHING LED**	**OPERATING WORK SECTOR SPD265**
	From rear left stabilizer to rear right stabilizer 220°
	From front left stabilizer to rear right stabilizer
	From front right stabilizer to rear left stabilizer

CAUTION!!!

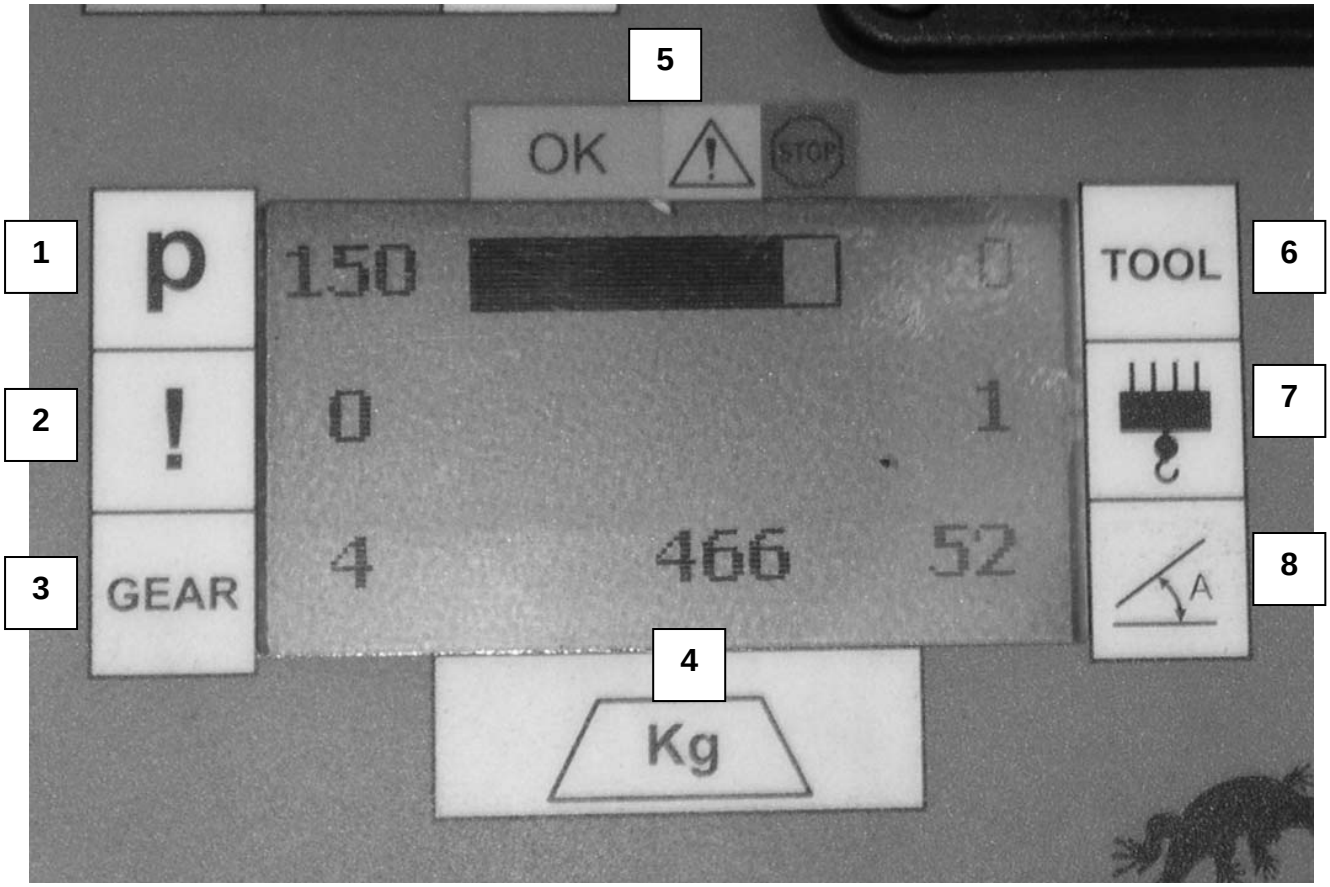
Whatever other combination not indicated in the table above won't allow the crane functioning. It will only be possible to move the truck and the stabilizers.

● **LIT LED**	**OPERATING WORK SECTOR SPD360-500**
	360° continuous rotation On SPD500 the led flash if the outrigger isn't opened correctly 45°

Flashing led

Red > flashing when warning or alarm are activated
Yellow > on when anticollision system is activated, off when anticollision system is deactivated
Green > on when maintenance is OK, flashing when maintenance is due
Red-yellow-green > flashing when by-pass is activated

Display functions



Ref.	Description
1	Pressure value on the lifting jack
2	Error code indicator
3	Gear engaged
4	Load lifted by the winch
5	Proportional indicator of maximum pressure attainment
6	Indicator of activated tool – **0** > Winch **1 M** > Manipulator MV300.3 **2 JH** > Hydraulic jib with hook **3 JM** > Mechanical Jib **4H** > Hook **5 M2** > manipulator MR800.4 **6 JW** > Hydraulic Jib with rope
7	Indicator of line pull type present on the winch rope
8	Indicator of the boom angle in comparison with the horizontal position

Control and configuration pages:

Hold down ENTER to page to the MAIN MENU
Hold down ESC to exit the MAIN MENU
Press the up and down arrows to scroll the menu (press fast the button)
Press ENTER to select/page to; press ESC to deselect/exit a function
Press ENTER to set the values > an asterisk "*" will appear up the space on the left > change position of the asterisk "*"using ESC > modify the value by means of arrow + or - > press ENTER to exit (the asterisk has to be positioned on the last figure on the right and then it disappears)

1- INPUT > page indicating the list of inputs and their state
2- OUTPUT > page indicating the list of outputs and their state
3- ANALOGIC > page indicating the list of analogical inputs-outputs and their state
4- CALIBRATION
   - Angle min: __ >enter to set angle min
   - Angle max:___> enter to set angle max
   - Load min: __ >enter to set load min
   - Load max:___> enter to set load max
   - Enter to set joy right down
   - Enter to set joy right up
   - Enter to set joy right zero
   - Enter to set joy left down
   - Enter to set joy left up
   - Enter to set joy left zero
   - Joy dead zo
   - Enter to set rotation STB1
   - Enter to set rotation FRONT
   - Enter to set rotation STB4
   - Enter to set rotation STB3
   - Enter to set rotation REAR
   - Enter to set rotation STB2
5- MACHINE PAR.
   - Max pression
   - Min pression
   - Max load
   - PWM-M
   - PWM-M-T
6- MACHINE OPE.
   - n° rope (1,2,3)
   - n° tool (**0** > Winch **1 M** > Manipulator MV300.3 **2 JH** > Hydraulic Jib with hook **3 JM** > Mechanical Jib **4H** > Hook **5 M2** > manipulator MR800.4 **6 JW** > Hydraulic Jib with rope)
   - RO-S ABCDEFRX
   - Imperial Unit: **0** > E.U. / **1** > Imp. Unit
7- BY-PASS
   - Crane (when activated by pressing ENTER, the corresponding led will flash and the ring turn on)
   - Truck (when activated by pressing ENTER, the corresponding led will flash and the ring turn on)
8- TIMER

- HTM: (hours) total machine - total working hours of the machine
- HDM: (hours of) diesel engine (only diesel engine) working hours - when diesel engine machine
- HDK: : (hours of) "power pack" working hours - only on Diesel machine equipped by power pack - 3 Phase or Monophase
- HEB (hours of) electric battery (only on electric +24Vdc machine) working hours - when 24Vdc battery machine
- HEK: (hours of) "power pack" working hours (only on electric +24Vdc machine) - when 24Vdc battery machine equipped by power pack - 3 Phase or Monophase
- MNM: hour counter of maintenance for the whole machine
- MND : hour counter of maintenance for the diesel engine (only for machine equipped by diesel engine)
- Enter to set reset time 1
- Enter to set reset time 2

MN.D is different to MN.M cause of the engine has a different maintenance schedule (and with different time)

9- SAVE

CAUTION!!!

Configuration pages 4 and 5 can be paged to only by entering a password supplied under the manufacturer's authorization.

After modifying the settings, page to the SAVE page and save by pressing ENTER.

Key alternate functions:

TEMPORARY BY-PASS: in case of overload, some moves of the crane might be deactivated for safety purposes. If it is necessary to carry out these moves in order to overcome the emergency condition, follow the procedure here below:

- Press the two arrows on the switchboard at the same time, the buzzer will stop in 5 seconds, the three-colour LEDs near the ENTER/ESC keys start flashing in order to indicate that the by-pass is activated. At this point, the operator is allowed 10 seconds to carry out the necessary moves. This procedure can be repeated three times provided a one-minute interval is left between one and the next. When the emergency condition is over, switch the switchboard off and then switch it on again.

FIXED BY-PASS: it is activated by paging from the main menu to page 7. The by-pass CRANE activates all the crane moves, the by-pass TRUCK activates all the truck moves. CAUTION!!! USE THIS PROCEDURE VERY CAREFULLY SINCE IT CUTS OUT ALL THE MACHINE SAFETY SYSTEMS.

CAUTION!!!

Stop and restart the machine after using the fixed by-pass in order to go back to the basic settings.

ANTICOLLISION SYSTEM: lift up the boom to the intended angle, press arrow 

; when the value is saved, the two LEDs of the ESC key will flash in turn.

Press arrow 

to deactivate the system. (the yellow led turn on)

Alarms:

The alarm code disappears only when the problem is solved
The warning code appears as a consequence of the wrong move that generated it and disappears with a 2-second delay in order to suggest the move which is not allowed in that configuration. It could be present also to give an advertisement about machine functioning. For informations se the following table and the label present on the machine.

ALARMS	ACTION
1 alarm E2PROM HEAD	→ 1° Check fuses >2°Call service
2 pressure transducer disconnected	→ Check pressure transducer wiring
3 pressure transducer short-circuited	→ 1° Check fuses >2°Replace it
4 jib pressure transducer disconnected	→ Check jib pressure transducer wiring
5 jib pressure transducer short-circuited	→ 1° Check fuses >2°Replace it
6 winch strain gauge disconnected	→ Check strain gauge wiring
7 winch strain gauge short-circuited	→ 1° Check fuses >2°Replace it
8 angle sensor disconnected	→ Check wiring
9 angle sensor short-circuited	→ 1° Check fuses >2°Replace it
12 angle sensor disconnected	→ Check wiring
13 angle sensor short-circuited	→ 1° Check fuses >2°Replace it
14 angle sensor wrong value	→ Make calibration
15 Hydraulic Jib angle sensor disconnected	→ Check wiring
16 Hydraulic Jib angle sensor short-circuited	→ 1° Check fuses >2°Replace it
30-35 timeout (1-2-3-4-5-6) CANBUS ARM	→ 1° Check fuses >2°Call service
WARNINGS	**ACTION**
10 local emergency held down	→ Reset the machine emergency push button
11 remote emergency held down	→ Reset the radio remote control emergency push button
40-45 maintenance alarm	→ Carry out scheduled maintenance
51 block due to max pressure	→ Activate allowed function by the machine
52 block due to min pressure	→ Lift the boom
53 block due to max load	→ Lay the load to the ground or change n° of rope
54 block due to rope up	→ Unwind the rope or telescope in
55 block due to rope down	→ Wind the rope
56 block due to machine instability SPD360	→ Activate allowed function by the machine
57 clockwise slewing block SPD265	→ Turn the boom to the opposite sector
58 counterclockwise slewing block SPD265	→ Turn the boom to the opposite sector
59 block due to pressure transducer alarm	→ Check and/or replace for probable failure
60 block due to jib pressure transducer alarm	→ Check and/or replace for probable failure
61 block due to winch strain gauge alarm	→ Check and/or replace for probable failure
62 block due to angle sensor alarm	→ Check and/or replace for probable failure
63 block due to anticollision	→ Lower the boom
64 block due to global safety system	→ 1° Check fuses >2°Call service
65 block due to max angle	→ Lower the boom
66 slowing down because of the anticollision	→ No action, safety system
67 slowing down because of the max angle	→ No action, safety system
68 block of mechanical jib	→ You are not on a correct jib lifting area, see lifting diagram!

70 block due to wrong tool selected	→ Select the right tool on the menu
71 slewing block	→ Activate allowed function by the machine
72 hook lifting tool	→ Winch is automatically locked
73 clockwise slewing block SPD360	→ Restore the correct stabilisation of the machine
74 counterclockwise slewing block SPD360	→ Restore the correct stabilisation of the machine
75 wrong stabilisation SPD360	→ Restore the correct stabilisation of the machine
76 wrong stabilisation SPD500	→ Restore the correct stabilisation of the machine
77 block for instability of SPD500	→ Activate allowed function by the machine
78 block for wrong stabilization	→ Restore the correct stabilisation of the machine
79 block of jib SPD500	→ You are not on a correct jib lifting area, see lifting diagram!
80 clockwise slewing block SPD500	→ Turn to counterclockwise direction
81 counterclockwise slewing block SPD500	→ Turn to clockwise direction
83 clockwise slewing block SPD500 with rotation sensor	→ Turn to counterclockwise direction
84 counterclockwise slewing block SPD500 with rotation sensor	→ Turn to clockwise direction
85 block due to error rotation sensor	→ Check and/or replace for probable failure
86 block due to forbidden working sector	→ Restore the correct stabilisation of the machine
87 block due to reading error rotation sensor	→ Do again setting of the sensor
88 slowing down because of forbidden working sector	→ Normal safety movement
89 slowing down for minimum angle	→ Normal safety movement
90 engine off	→ Turn on the engine
91 machine start-up	→ Push turn on engine button to start-up machine
92 outriggers exclusion key	→ Turn outrigger exclusion key
93 reserve tank	→ Refill it
94 diesel engine water hight temperature	→ Stop immediately the motor
100 block due to max pressure hydraulic jib	→ Activate allowed function by the machine
101 block due to min pressure hydraulic jib	→ Lift the jib boom
102 slowing down because of max angle main-hydraulic jib	→ Normal safety movement
103 block due to max angle main-hydraulic jib	→ Activate allowed function by the machine
104 slowing down because of min angle main-hydraulic jib	→ Normal safety movement
105 block due to max angle hydraulic jib	→ Activate allowed function by the machine
106 slowing down of main because of max angle main-hydraulic jib	→ Normal safety movement
107 slowing down because of max angle main-hydraulic jib with rope	→ Normal safety movement
108 block due to max angle main-hydraulic jib with rope	→ Activate allowed function by the machine
109 slowing down because of min angle hydraulic jib with rope	→ Normal safety movement
110 block due to min angle hydraulic jib with rope	→ Activate allowed function by the machine
111 slowing down of main because of min angle hydraulic jib with rope	→ Normal safety movement
112 block of main due to min	→ Activate allowed function by the machine

angle hydraulic jib with rope	
113 spd360 hydraulic jib tool wrong selection	→ Select tool n° 2 (use with hook) or 6 (use with rope)

Login with password to the machine settings

Switch on the switchboard and when the software name and the machine model are displayed press ENTER to page to the password login page. Press ESC to move the cursor (*) and the keys (+) and (-) to increase/decrease the figures in order to set every number of the password. Press ENTER to confirm the password (the asterisk has to be on the last figure on the right). Page to the MAIN MENU by pressing ENTER, and setting page No 4 CALIBRATION or No 5 MACHINE PARAMETER will appear depending on the password entered.

CAUTION!!!

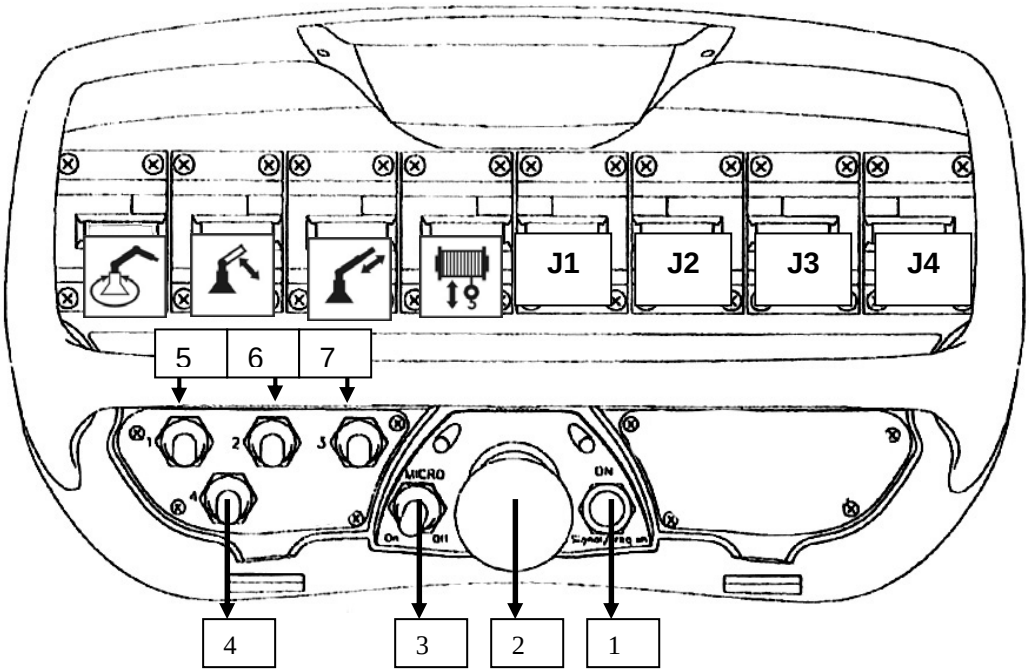
Login with password to the machine setting pages is only allowed to authorized personnel specialized in modifying the settings. For further information, see the manual of software setting supplied to the specialized technicians, only.

WINCH CALIBRATION

1- Enter page CALIBRATION (4) and select LOAD MIN
2- Press ENTER and set the numerical value at 0
NB: no load has to be on the winch.
3- Press ENTER to confirm the value (the asterisk has to be on the last figure on the right)
4- Select LOAD MAX and lift a load whose weight you know by means of the winch
5- Press ENTER and use the arrows to set the weight of the lifted load.
6- Press ENTER to confirm the value (the asterisk has to be on the last figure on the right)
7- Select SAVE and press ENTER, wait until the calibration setting are saved, stop and restart the machine and carry out a test to check whether the weight indicated on the display is correct otherwise repeat the procedure.

NB: There may be a slight difference (some Kg) between the weight indicated and the real one. The load is only indicative and have a gap of 10%

3.2 Radio remote control



Ref.	Description
1	ON activation of the radio remote control and frequency change during operation
2	Emergency push button
3	Optional
4	Adjustment of the crane working speed SLOW/FAST
5	Adjustment of the engine rpm MIN/AUTOMATIC/MAX
6	Engine start/stop
7	Crane By-pass < > 2° speed winch (only SPD360CDH)

3.3 Main electrical cabinet

The electrical cabinet contains the components of the machine feeding system as well as a PLC system controlling the machine running.

CAUTION!!!

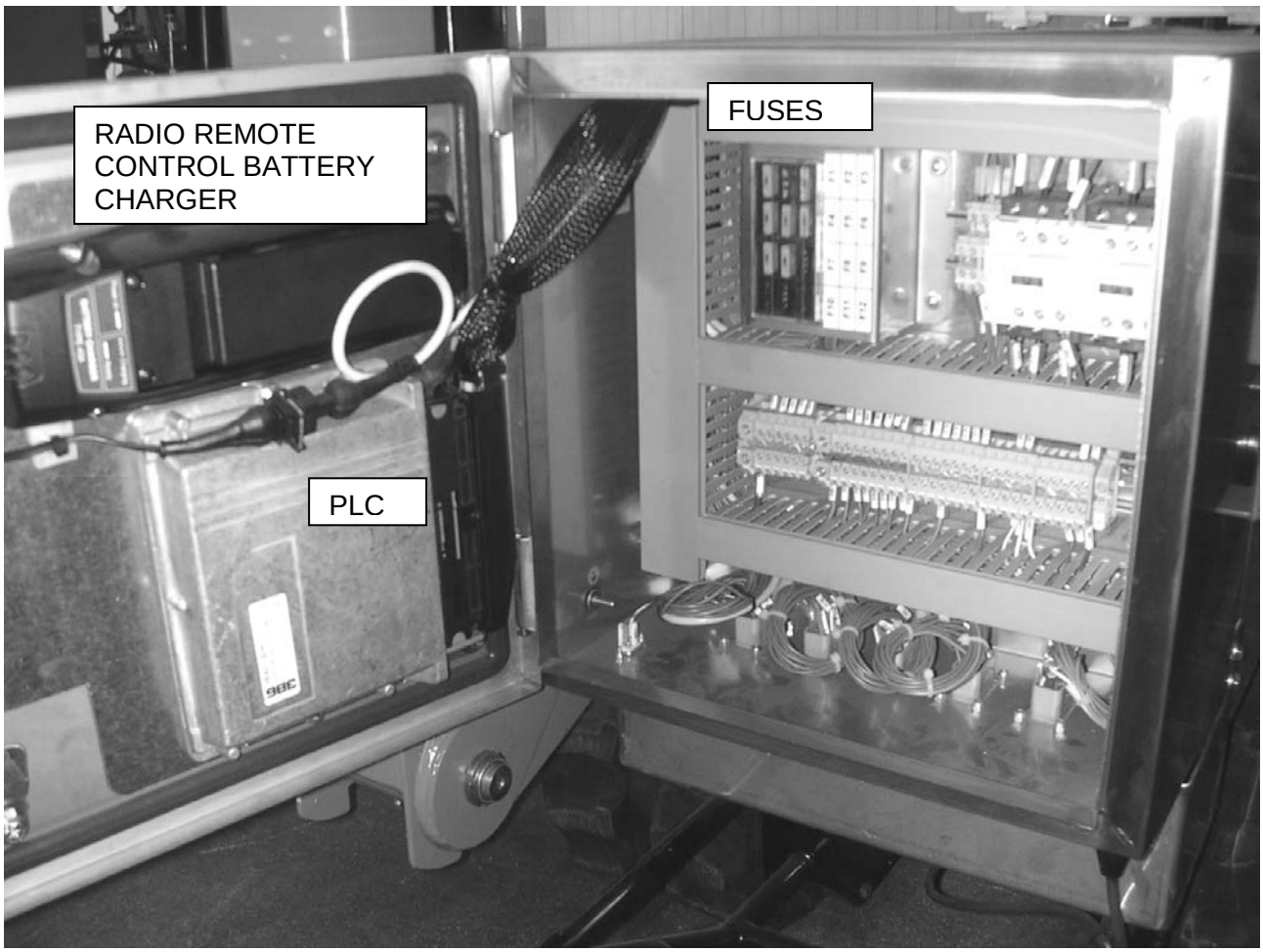
Access to the electrical cabinet is allowed to authorize personnel, only.

Tampering with the electrical cabinet will nullify the warranty conditions.

Note:	Possibile repairs have to be carried out by the manufacturer or under its authorization.

CAUTION!!!

VERIFY THE ELECTRIC INSTALLATION EARTHING AT ALL TIMES. MAKE SURE THAT THERE IS A SUITABLY DIMENSIONED GROUND FAULT CIRCUIT.



4 USE OF THE MACHINE IN REGULAR WORKING CONDITIONS

4.1 Machine starting

Battery version C+:

- Turn the battery switch on the ON position
- Take the switchboard
- Start the machine by turning the key switch of the switchboard on the ON position and push turn on engine button to start-up the machine.If there ‘s not communication between machine and switchboard on the display will appear message “ no communication CAN H – CAN L : in this case check fuse and switch board- head connection.

Engine version CDH:

- Turn the battery switch on the ON position
- Take the switchboard
- Start the machine by turning the key switch of the switchboard on the ON position and push turn on engine button to start-up the machine.
- Press the proper push button on the switchboard or turn the key switch on the RADIO position and start the engine by means of the proper switch on the radio remote control.

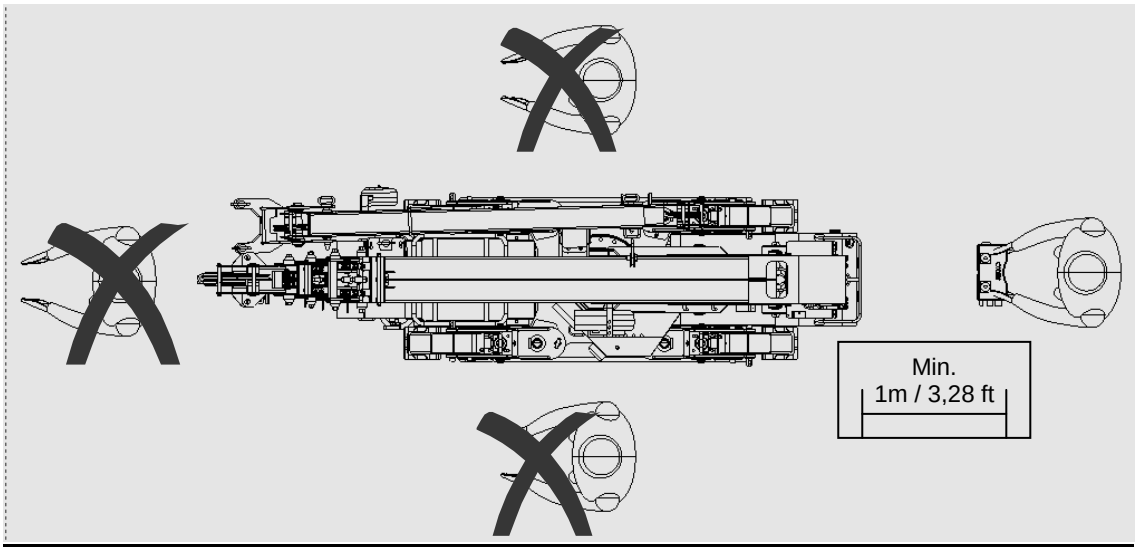
4.2 Handling and stabilization of the machine

- Start the machine (see 4.1)
- The machine is equipped with a 2-way solenoid valve automatically making the oil flow to the truck or crane system depending on what signal light is lit on the switchboard. In case the 2-way solenoid valve didn’t work, deviate the oil manually as described in paragraph 4.7.

Drive the machine using the joysticks on the switchboard (press the push button on top of every joystick and in the meanwhile move it to operate the tracks). To move the machine front and back using only the right joystick, put down the swich 3B (see 3.1). ***Don’t turn quickly or sheer when you are driving on a slope, risk of tipping over!!***

CAUTION!!!

Safety transition driving position is only behind the machine



TRUCK MODE CONFIGURATION

CAUTION!!!

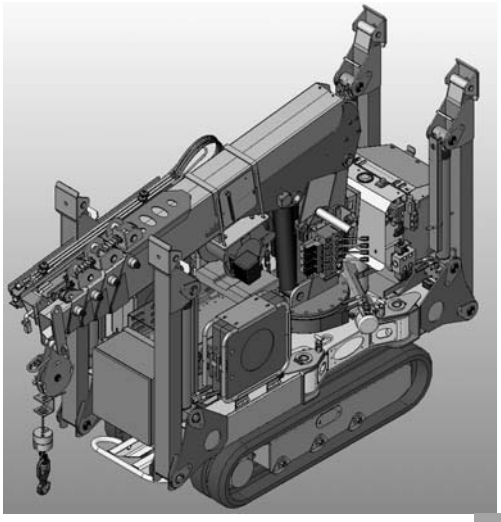
During the transition on truck mode you have to be sure that:

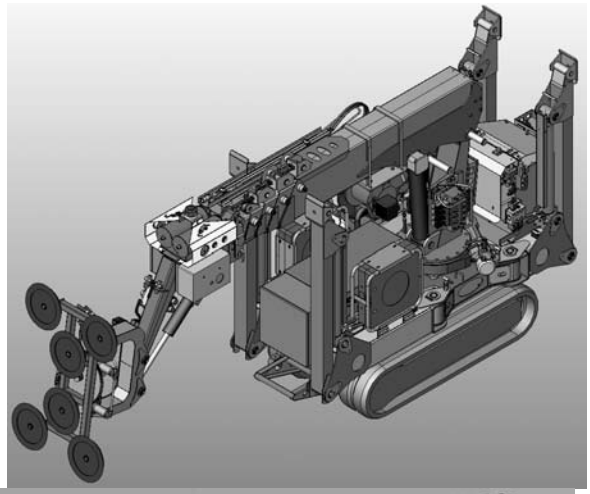
- **Boom must be on track mode position (central, horizontal position and carrying no load – the LED lit on the switchboard indicates that the corresponding configuration is activated**
- **Crane Jib must be closed and stowed**
- **Outriggers must be positioned closed, retracted and locked**

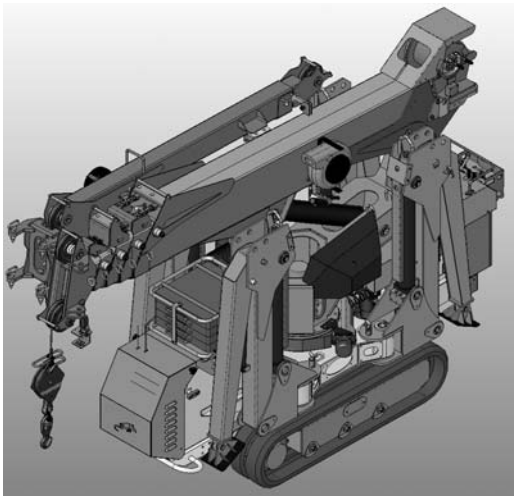
CAUTION!!!

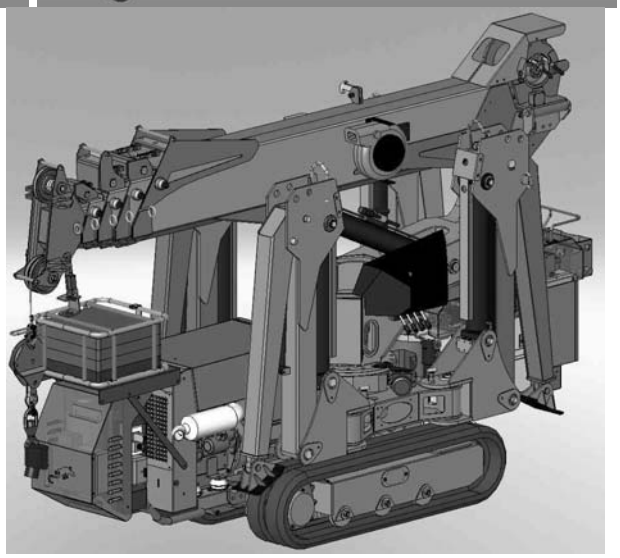
Drive always along max slope direction.

TRUCK MODE CONFIGURATION:

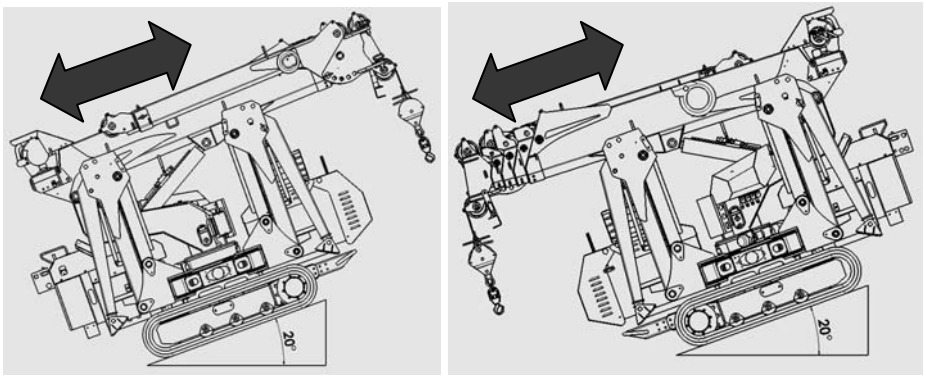


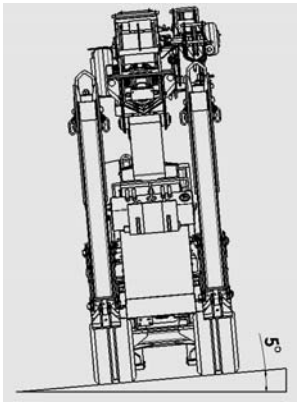




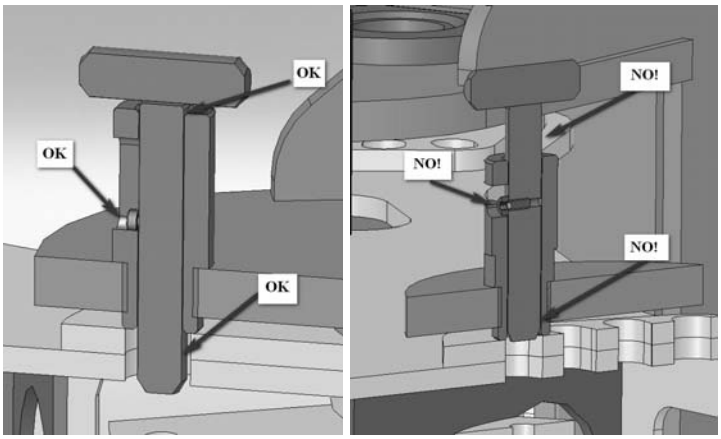


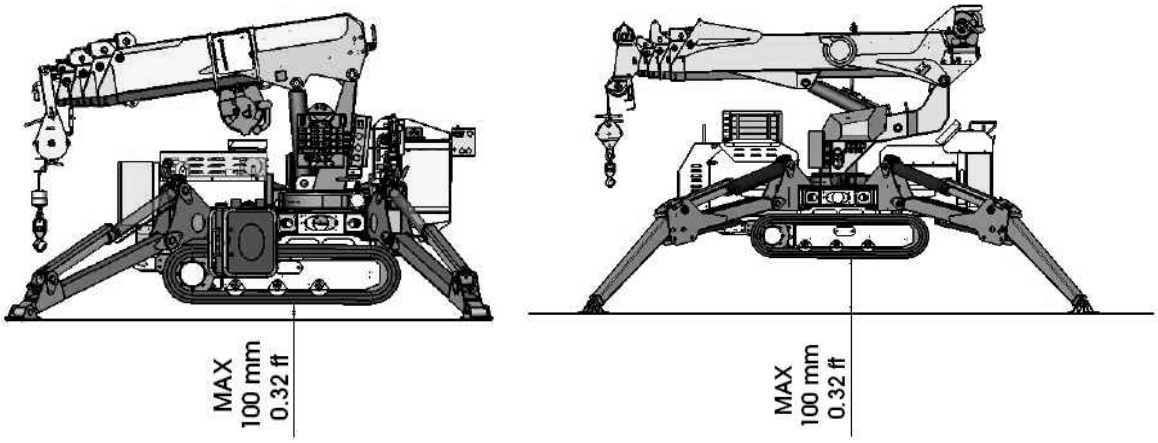
MAX SLOPE GRADIENT:





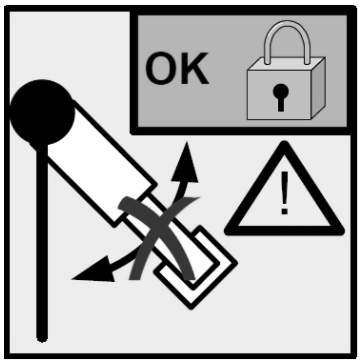
- Extend the stabilizers depending on the configuration chosen and fix them with the appropriate locks. The fixing is obtained by inserting the pin into one of five possible holes and rotating the same so that the safety screw is fully in place anti-slip inserts. Before each operation lifting this attachment must be controlled by the operator. A stabilizer perfectly locked (locking pin inserted as shown below) can not rotate. Position the chocks and lower the stabilizers using the hydraulic levers aboard the machine, lift the machine from the ground (max 100 mm-0.32ft)and make sure that the stabilizers rest on the centre of the pads and that the tracks don't touch the ground. PADS MUST BE POSITIONED AS HORRIZONTAL AS POSSIBLE .
-

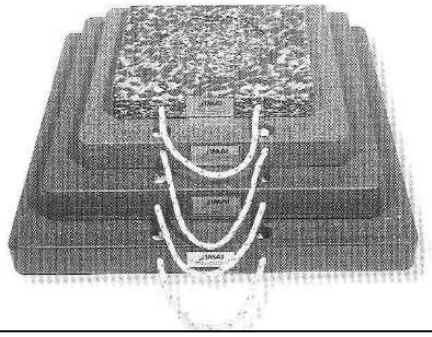




CAUTION!!!

Before working with the crane, always check the proper locking of the stabilizers. A car is not properly stabilized can tip over.

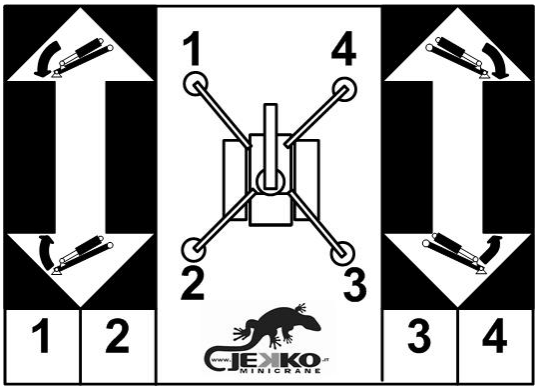




SPD265-266-360 STANDAR EQUIPMENT

S/N	Dimensione Sized	Reazione Massima Max Reaction
PEHD300	300 x 300 x 40	7.500kg
PEHD400	400 x 400 x 50	12.500kg
PEHD500	500 x 500 x 60	20.000kg
PEHD600	600 x 600 x 60	25.000kg
PEHD700	700 x 700 x 60	30.000kg
PEHD800	800 x 800 x 60	35.000kg

Outrigger pad size-maximum load

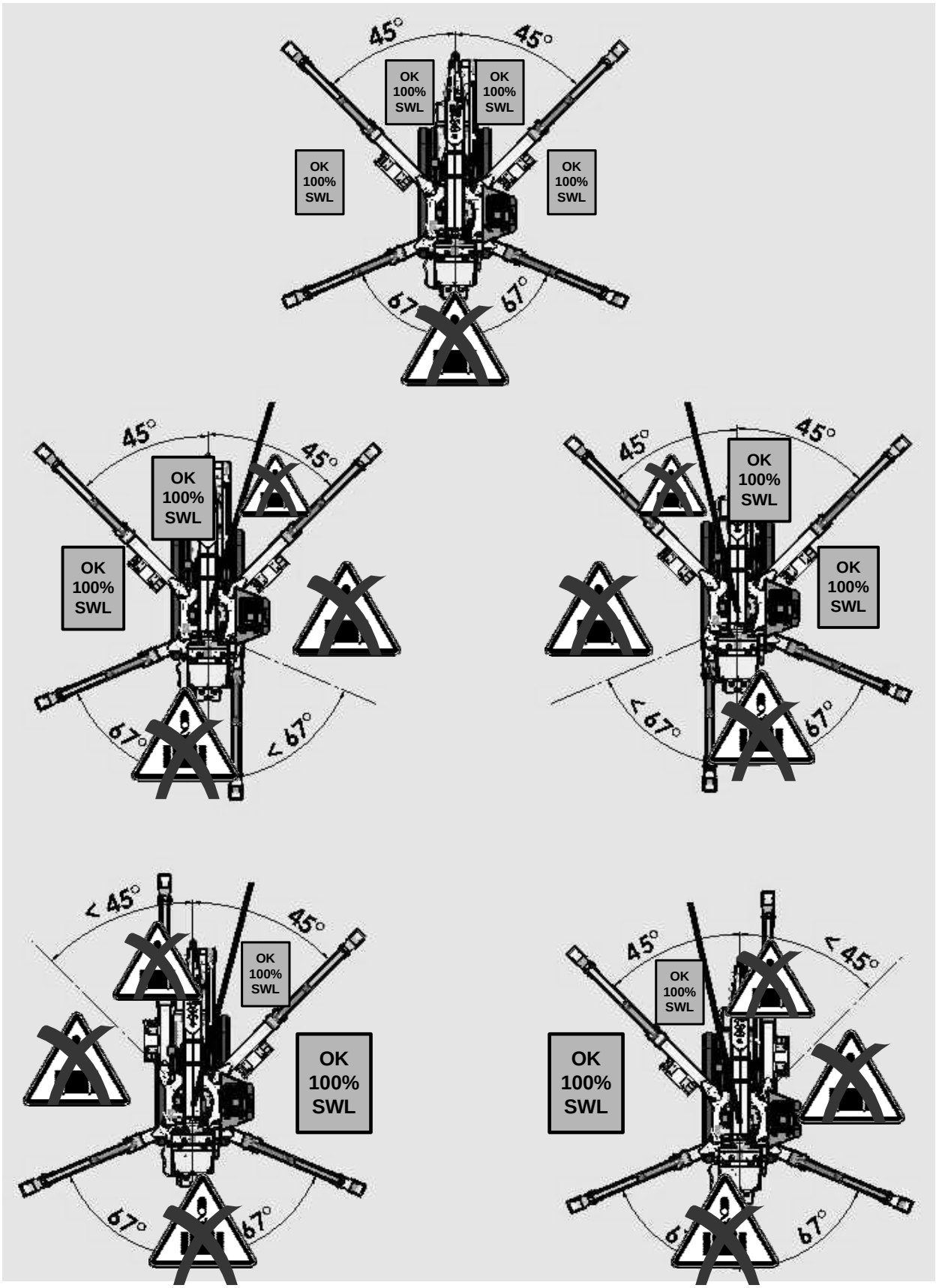


- Check the correct working configuration looking at the LEDs on the switchboard – **when the machine is correctly stabilized the crane LED is on.**

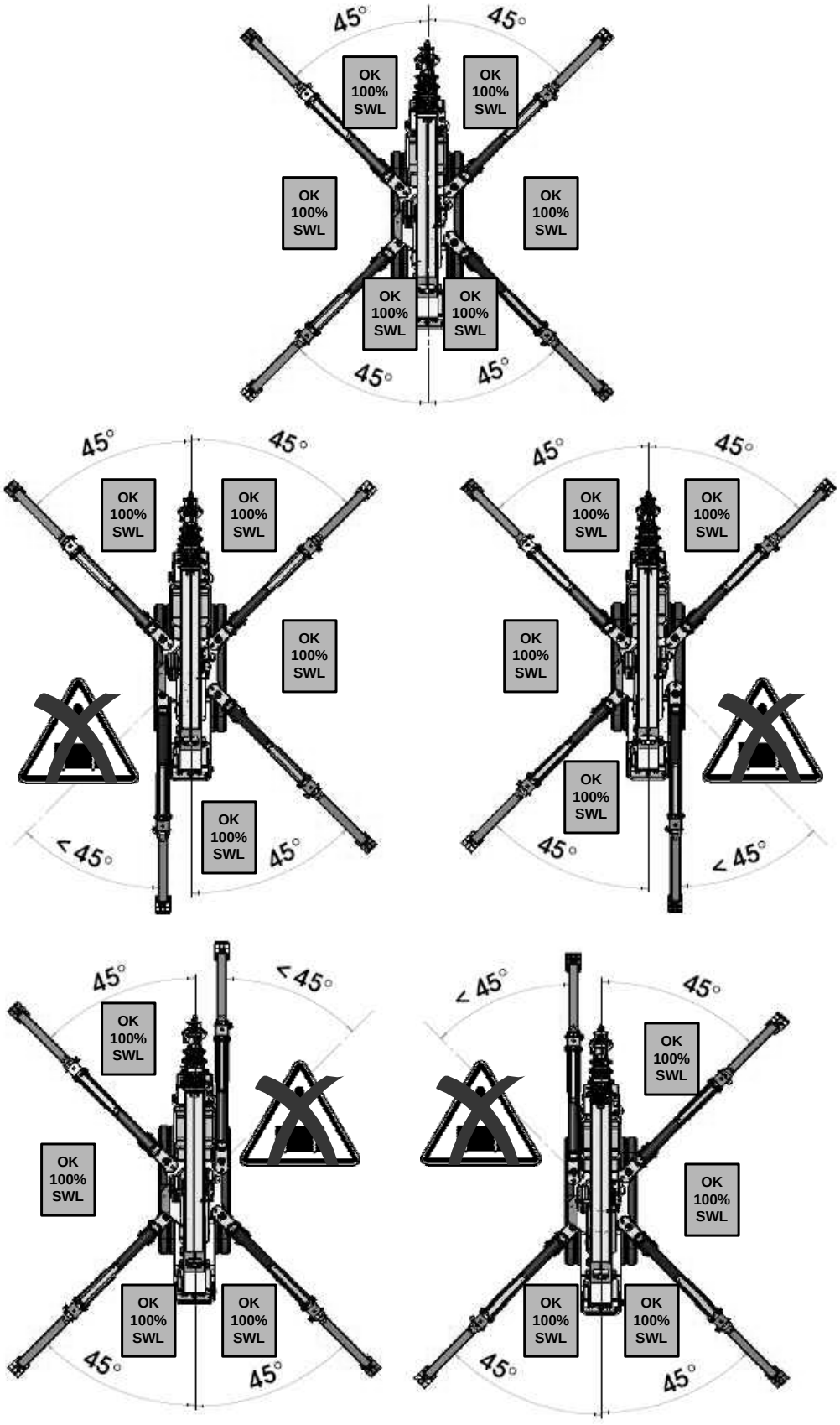
CAUTION!!!
Do not operate the machine when the tracks are on the ground.

CAUTION!!!
Do not tamper with the stabilizer position sensing system in order to alter the machine running. The manufacturer declines all deriving liability.

CAUTION!!!
Do not work on floors whose structural characteristics are unknown. Use suitably dimensioned pads, only.



SPD265-SPD266 WORKING SECTOR



SPD360 WORKING SECTOR

4.3 Use of the crane

Once the machine is correctly stabilized (crane LED on), the 2-way solenoid valve automatically makes oil flow from the truck to the crane system.

Key switch on LOCAL position:

Use the joysticks to carry out the moves indicated
- When the central key switches are up, the crane can be operated (green moves)
- When the central key switches are down, the jib can be operated (yellow moves)

Key switch turned to REMOTE position:

When the key switch is in this position, the radio remote control is activated:
- Start the radio remote control
- Use the uniaxial analogical joysticks to operate the crane and the jib

4.4 From crane configuration to truck configuration

CAUTION: switching from crane to truck configuration is possible only if the crane boom is in a central horizontal position and carrying no load – the LED lit on the switchboard indicates that the corresponding configuration is activated.

4.5 Stop and laying-up of the machine

- Make sure that the crane boom is in a central horizontal position and carrying no load
- Turn the key switch on the LOCAL position
- Retract the stabilizers and park the machine
- Turn the cutout switch on the OFF position
- Turn the battery switch on the OFF position

4.6 Settings of the tools installed

Access to page N° 6 MACHINE OPERATOR on the MAIN MENU:
1- in underpage “n° tool” select the number corresponding to the tool installed

VALUE	SYMBOL ON DISPLAY	DESCRIPTION
0	O	Winch
1	M	Manipulator MV300.3
2	JH	Hydraulic jib with hook
3	JM	Mechanical jib
4	H	Hook
5	M2	Manipulator MR800.4
6	JW	Hydraulic jib with rope

2- in underpage “n° rope” select the kind of line pull (single, double, triple) installed on the winch

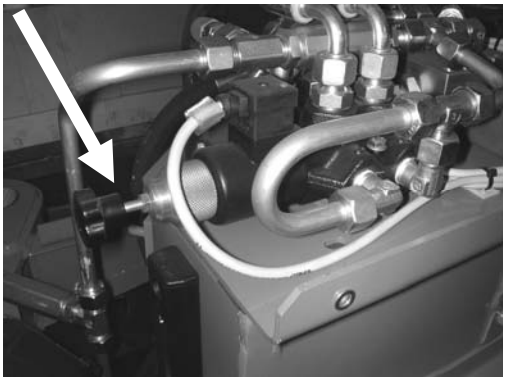
Once the values are set, save them on page 9.

For the tool use, see the relative section or the manual supplied.

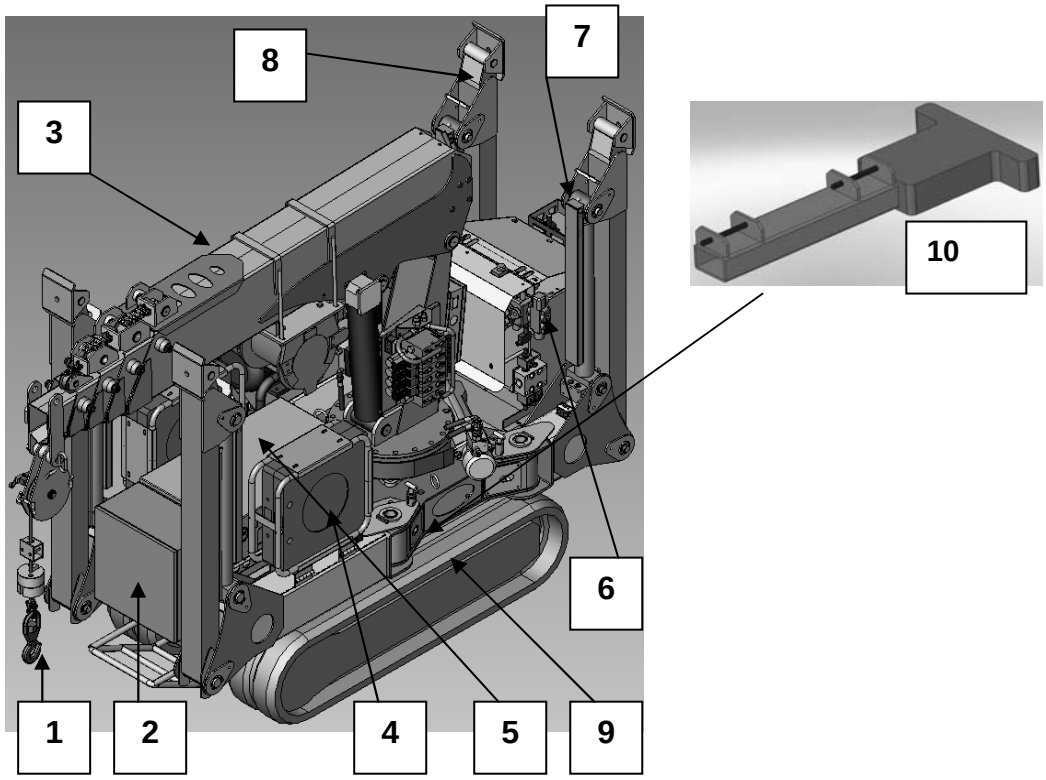
If you select tools number 1,2,4,5, winch functions are automatically deactivate.

4.7 Emergency procedure to change configuration

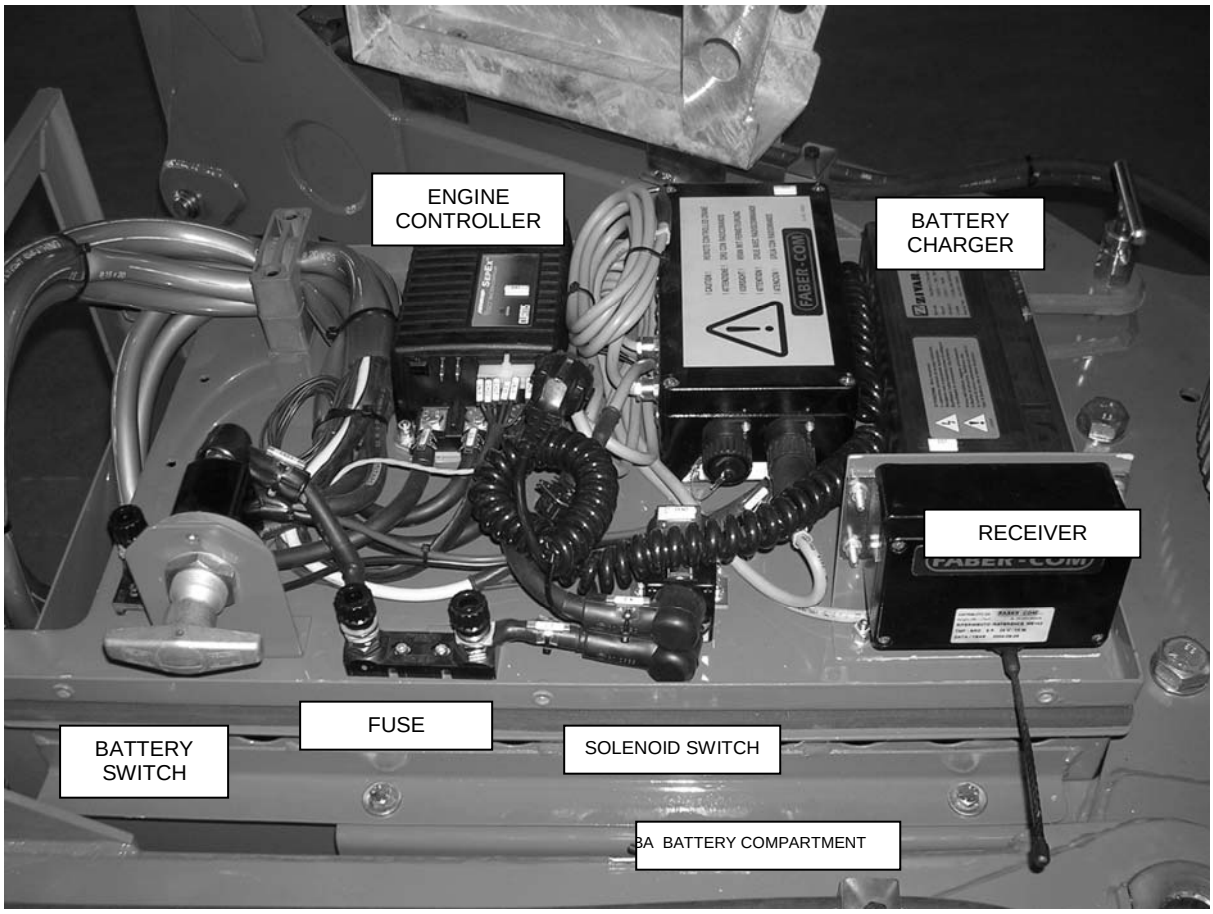
ATTENTION! CALL ASSISTANCE TO DO THIS EMERGENCY PROCEDURE.
Remove seals of solenoid valve Y1,Y2,Y3.
Turn the handle clockwise to deviate the oil flow to the crane system, counterclockwise to the truck. When the handle is in its standard position, the oil flow is delivered to the crane system.

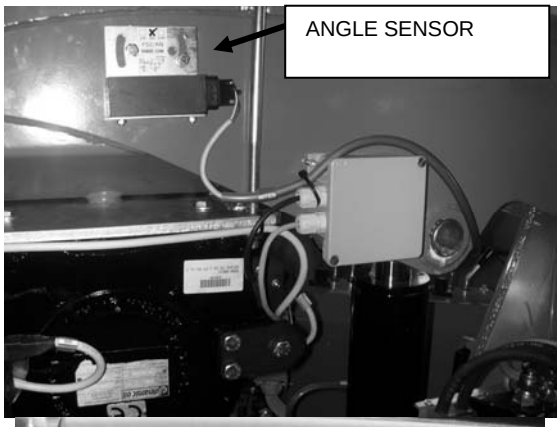


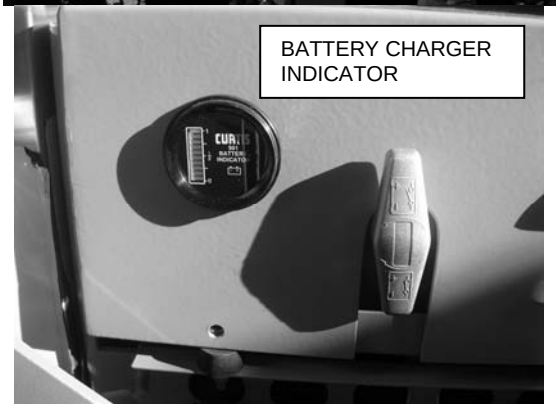
5 MAIN PARTS OF MODEL SPD265C+ SPD266C+



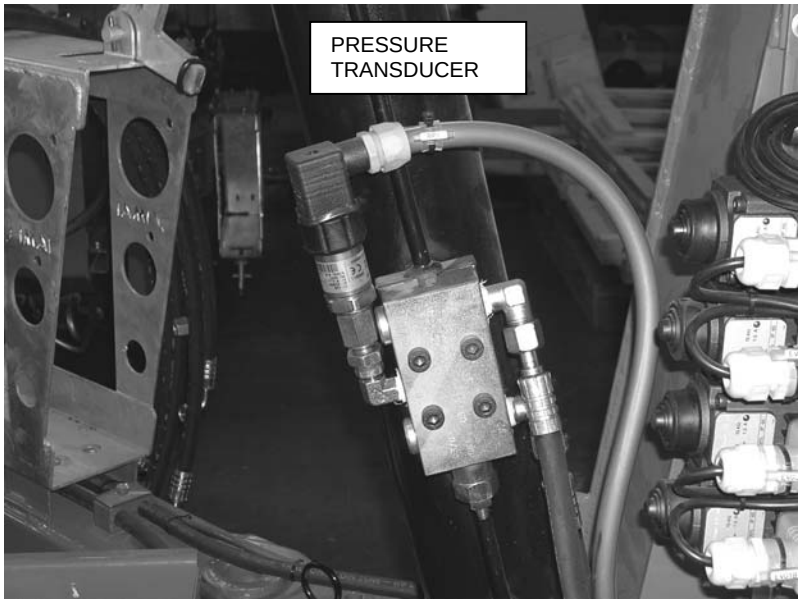
Ref.	Description
1	Winch
2	Main electrical cabinet
3	Crane
4	Pads
5	Battery compartment
6	Hydraulic distributor
7	Switchboard
8	Outrigger
9	Track
10	Internal counterweight for spd266


ENGINE CONTROLLER
BATTERY CHARGER
RECEIVER
FUSE
BATTERY SWITCH
SOLENOID SWITCH
BA BATTERY COMPARTMENT

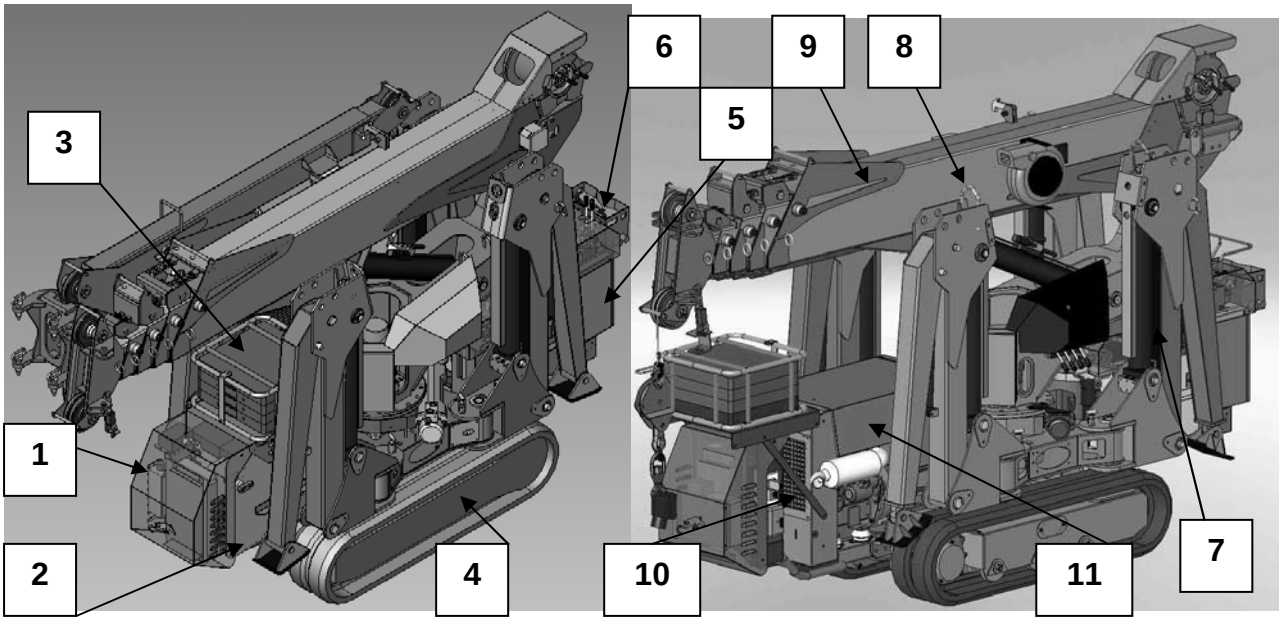

ANGLE SENSOR


BATTERY CHARGER INDICATOR


HAND PUMP

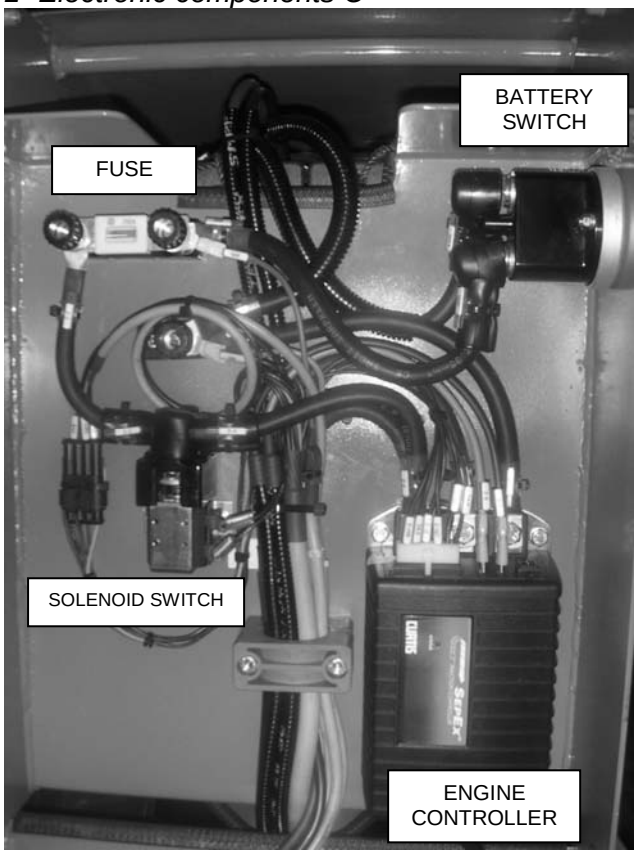

PRESSURE
TRANSDUCER

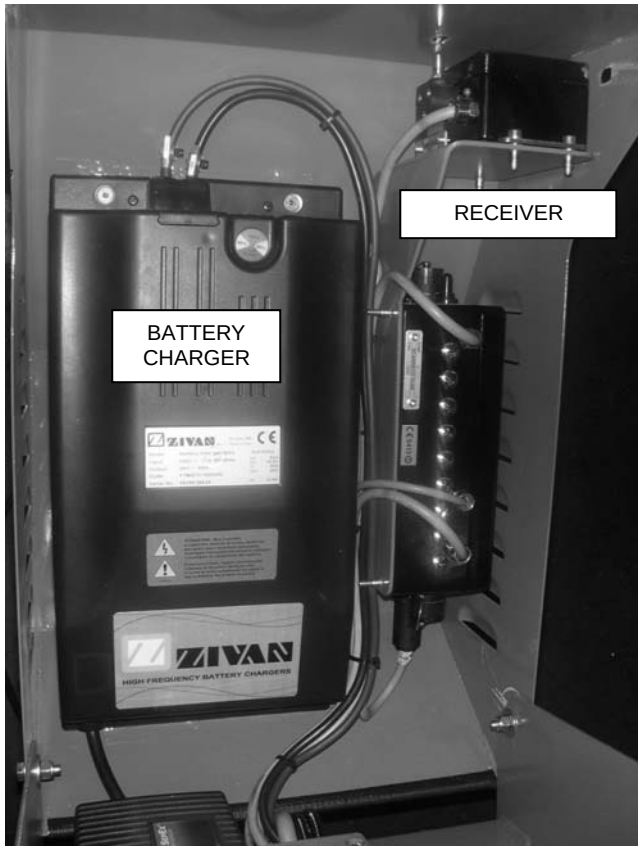
6 MAIN PARTS OF MODEL SPD360C+/CDH



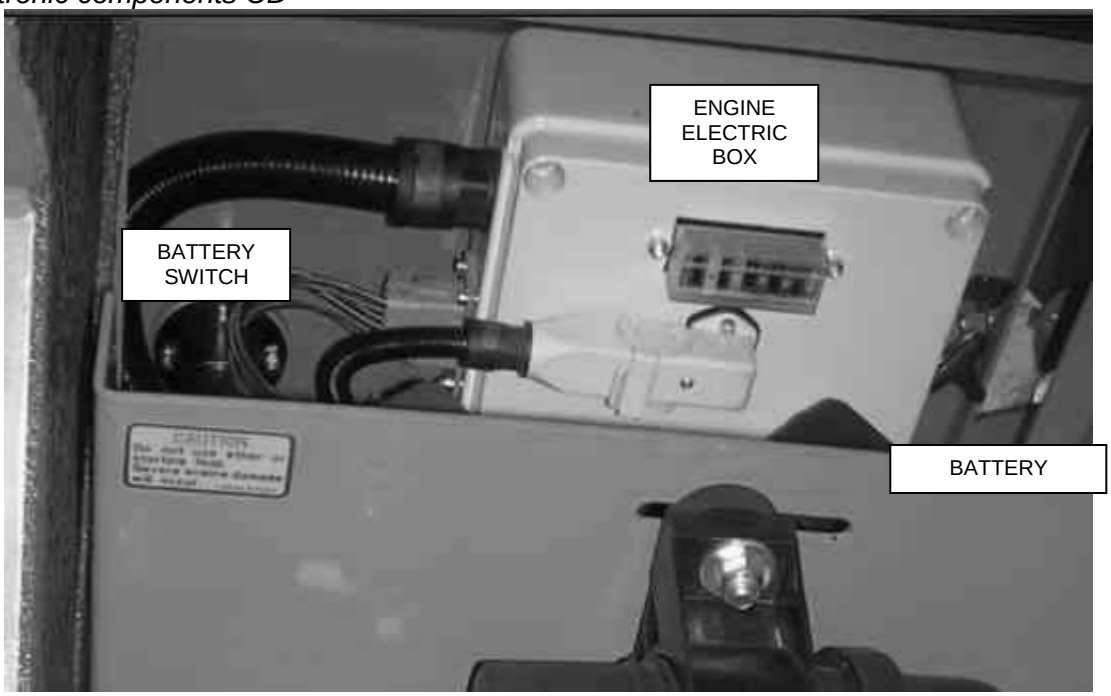
Ref.	Description
1	Electronic components
2	Battery compartment
3	Chocks
4	Truck
5	Main electrical cabinet
6	Switchboard
7	Stabilizer
8	Crane
9	Jib
10	Diesel engine
11	Diesel electronic components

1- Electronic components C+

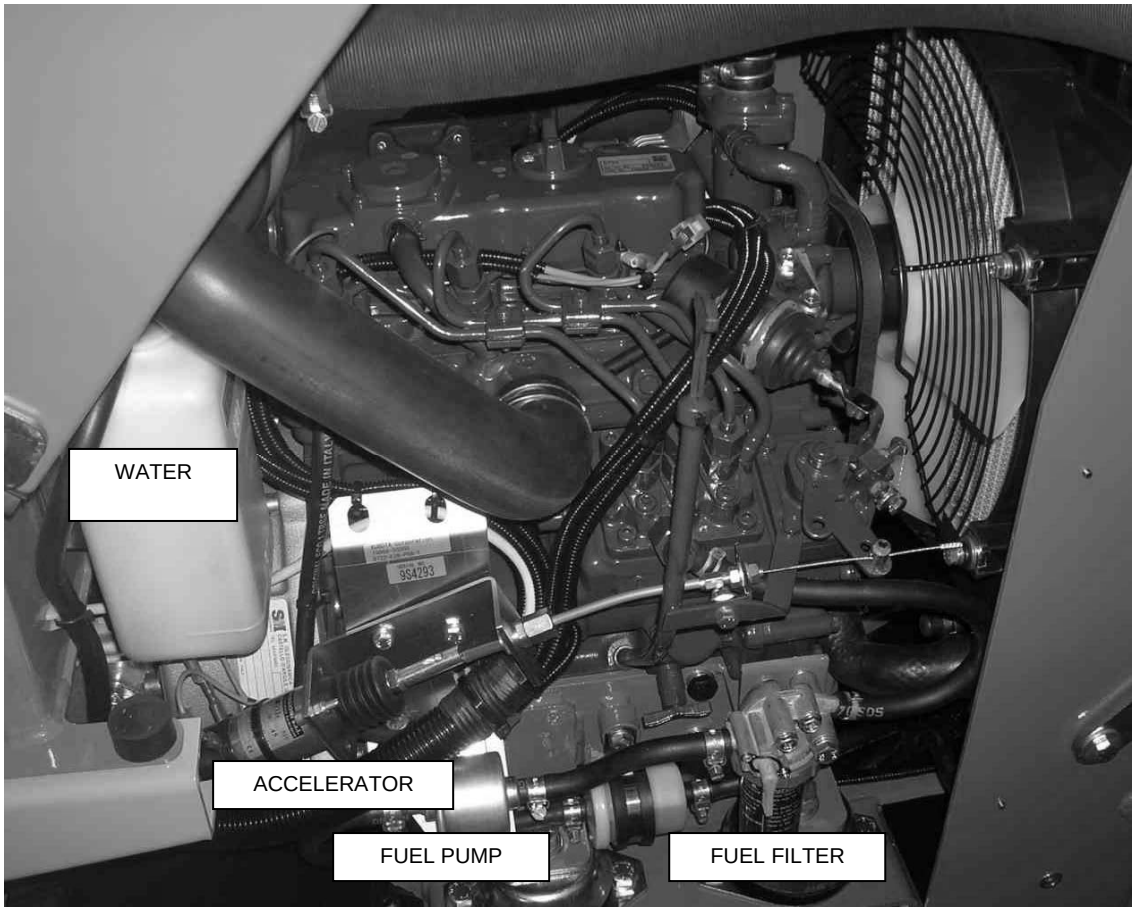




2- Electronic components CD

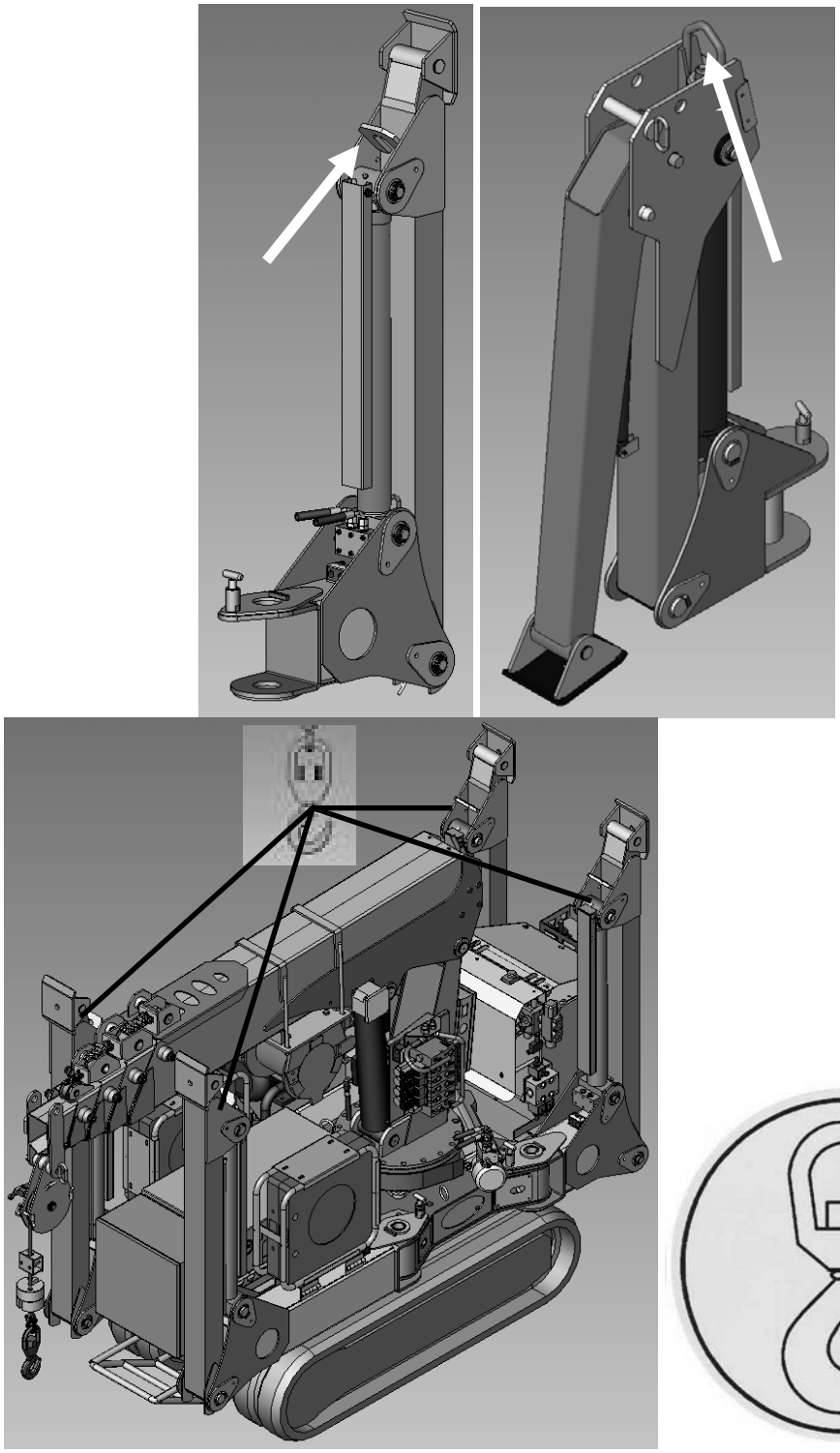


Button and key for start the engine



7 HANDLING AND TRANSPORT

Every machine has four anchor points located on each stabilizer in order to lift and position the machine by means of a yard crane. There is a label like below in the point of lifting.



Lifting and transport

8 TROUBLESHOOTING

8.1 Alarms of battery charger model BC1

IN CASE OF ALARM, THE BATTERY CHARGER STOPS DELIVERING CURRENT AND THE LED STARTS FLASHING

State	Alarm	Description (action)
Flashing GREEN	Timeout	Phase 1 exceeding the duration limits allowed – check the battery capacity
Flashing RED-YELLOW	Battery current	Loss of control of the output current – damage to the control logic
Flashing RED-GREEN	Battery voltage	Non-complying battery (check the nominal voltage) or loss of control of the output current (damage to the control logic)
Flashing RED-YELLOW-GREEN	Thermal alarm	Overheating of the semiconductors – check the fan operation
Flashing YELLOW-GREEN	Selection	An unused configuration has been selected – check the key switch position

8.2 Alarms of battery charger model NG1

IN CASE OF ALARM, THE BATTERY CHARGER STOPS DELIVERING CURRENT, THE LED STARTS FLASHING AND AN ACOUSTIC SIGNAL IS GIVEN

State	Alarm	Description (action)
Flashing RED	Presence of batteries	Non-complying or disconnected batteries
Flashing YELLOW	Thermal probe	Thermal probe disconnected or outside the operational range
Flashing GREEN	Timeout	Phase 1 and/or phase 2 exceeding the duration limits allowed – check the battery capacity
Flashing RED-YELLOW	Battery current	Damage to the control logic
Flashing RED-YELLOW	Battery voltage	Loss of control of the output current – battery disconnected or damage to the control logic
Flashing YELLOW-GREEN	Selection	An unused configuration has been selected – check the key switch position
Flashing RED-YELLOW-GREEN	Thermal alarm	Overheating of the semiconductors – check the fan operation

8.3 Alarms of battery charger model NG3

IN CASE OF ALARM, THE BATTERY CHARGER STOPS DELIVERING CURRENT, THE LED STARTS FLASHING AND AN ACOUSTIC SIGNAL IS GIVEN

State	Alarm	Description (action)
Flashing RED	Presence of batteries	Non-complying or disconnected batteries
Flashing YELLOW	Thermal probe	Thermal probe disconnected or outside the operational range
Flashing GREEN	Timeout	Phase 1 and/or phase 2 exceeding the duration limits allowed – check the battery capacity
Flashing RED-YELLOW	Battery current	Damage to the control logic
Flashing YELLOW-GREEN	Selection	An unused configuration has been selected – check the key switch position
Flashing RED-YELLOW-GREEN	Thermal alarm	Overheating of the semiconductors – check the fan operation

8.4 Machine alarms

ALARMS	ACTION
1 alarm E2PROM HEAD	→ 1° Check fuses >2°Call service
2 pressure transducer disconnected	→ Check pressure transducer wiring
3 pressure transducer short-circuited	→ 1° Check fuses >2°Replace it
4 jib pressure transducer disconnected	→ Check jib pressure transducer wiring
5 jib pressure transducer short-circuited	→ 1° Check fuses >2°Replace it
6 winch strain gauge disconnected	→ Check strain gauge wiring
7 winch strain gauge short-circuited	→ 1° Check fuses >2°Replace it
8 angle sensor disconnected	→ Check wiring
9 angle sensor short-circuited	→ 1° Check fuses >2°Replace it
12 angle sensor disconnected	→ Check wiring
13 angle sensor short-circuited	→ 1° Check fuses >2°Replace it
14 angle sensor wrong value	→ Make calibration
15 Hydraulic Jib angle sensor disconnected	→ Check wiring
16 Hydraulic Jib angle sensor short-circuited	→ 1° Check fuses >2°Replace it
30-35 timeout (1-2-3-4-5-6) CANBUS ARM	→ 1° Check fuses >2°Call service
WARNINGS	**ACTION**
10 local emergency held down	→ Reset the machine emergency push button
11 remote emergency held down	→ Reset the radio remote control emergency push button
40-45 maintenance alarm	→ Carry out scheduled maintenance
51 block due to max pressure	→ Activate allowed function by the machine
52 block due to min pressure	→ Lift the boom
53 block due to max load	→ Lay the load to the ground or change n° of rope
54 block due to rope up	→ Unwind the rope or telescope in
55 block due to rope down	→ Wind the rope
56 block due to machine instability SPD360	→ Activate allowed function by the machine
57 clockwise slewing block SPD265	→ Turn the boom to the opposite sector
58 counterclockwise slewing block SPD265	→ Turn the boom to the opposite sector
59 block due to pressure transducer alarm	→ Check and/or replace for probable failure
60 block due to jib pressure transducer alarm	→ Check and/or replace for probable failure
61 block due to winch strain gauge alarm	→ Check and/or replace for probable failure
62 block due to angle sensor alarm	→ Check and/or replace for probable failure
63 block due to anticollision	→ Lower the boom
64 block due to global safety system	→ 1° Check fuses >2°Call service
65 block due to max angle	→ Lower the boom
66 slowing down because of the anticollision	→ No action, safety system
67 slowing down because of the max angle	→ No action, safety system
68 block of mechanical jib	→ You are not on a correct jib lifting area, see lifting diagram!
70 block due to wrong tool selected	→ Select the right tool on the menu
71 slewing block	→ Activate allowed function by the machine
72 hook lifting tool	→ Winch is automatically locked
73 clockwise slewing block SPD360	→ Restore the correct stabilisation of the machine
74 counterclockwise slewing block SPD360	→ Restore the correct stabilisation of the machine
75 wrong stabilisation SPD360	→ Restore the correct stabilisation of the machine
76 wrong stabilisation SPD500	→ Restore the correct stabilisation of the machine

77 block for instability of SPD500	→ Activate allowed function by the machine
78 block for wrong stabilization	→ Restore the correct stabilisation of the machine
79 block of jib SPD500	→ You are not on a correct jib lifting area, see lifting diagram!
80 clockwise slewing block SPD500	→ Turn to counterclockwise direction
81 counterclockwise slewing block SPD500	→ Turn to clockwise direction
83 clockwise slewing block SPD500 with rotation sensor	→ Turn to counterclockwise direction
84 counterclockwise slewing block SPD500 with rotation sensor	→ Turn to clockwise direction
85 block due to error rotation sensor	→ Check and/or replace for probable failure
86 block due to forbidden working sector	→ Restore the correct stabilisation of the machine
87 block due to reading error rotation sensor	→ Do again setting of the sensor
88 slowing down because of forbidden working sector	→ Normal safety movement
89 slowing down for minimum angle	→ Normal safety movement
90 engine off	→ Turn on the engine
91 machine start-up	→ Push turn on engine button to start-up machine
92 outriggers exclusion key	→ Turn outrigger exclusion key
93 reserve tank	→ Refill it
94 diesel engine water hight temperature	→ Stop immediately the motor
100 block due to max pressure hydraulic jib	→ Activate allowed function by the machine
101 block due to min pressure hydraulic jib	→ Lift the jib boom
102 slowing down because of max angle main-hydraulic jib	→ Normal safety movement
103 block due to max angle main-hydraulic jib	→ Activate allowed function by the machine
104 slowing down because of min angle main-hydraulic jib	→ Normal safety movement
105 block due to max angle hydraulic jib	→ Activate allowed function by the machine
106 slowing down of main because of max angle main-hydraulic jib	→ Normal safety movement
107 slowing down because of max angle main-hydraulic jib with rope	→ Normal safety movement
108 block due to max angle main-hydraulic jib with rope	→ Activate allowed function by the machine
109 slowing down because of min angle hydraulic jib with rope	→ Normal safety movement
110 block due to min angle hydraulic jib with rope	→ Activate allowed function by the machine
111 slowing down of main because of min angle hydraulic jib with rope	→ Normal safety movement
112 block of main due to min angle hydraulic jib with rope	→ Activate allowed function by the machine
113 spd360 hydraulic jib tool wrong selection	→ Select tool n° 2 (use with hook) or 6 (use with rope)

9 STANDARD OPERATOR MAINTENANCE

9.1 Ordinary Maintenance

Ordinary maintenance can be carried out independently by the machine operator. A regular a careful maintenance preserves the machine and extends its life cycle. Damages and malfunctions often require higher costs in terms of time and money than those faced for a correct maintenance. When a deadline of extraordinary maintenance is reached, the green LED starts flashing until the warning alarm is reset after servicing the machine. The basic preset deadlines of extraordinary maintenance are at 500 and 1000 working hours.

Washing

- The equipment can be washed with detergents.
- Do not use degreasers and/or acid detergents.

DO NOT WASH THE MACHINE WITH A HIGH-PRESSURE WATER JET CLEANER

Machine Lubrication

Lubrication is to be carried out only when the machine is at a standstill.

RECOMMENDED LUBRICANTS:

LITHIUM-BASED LUBRICANTS for temperatures ranging from -20°C to +50°C

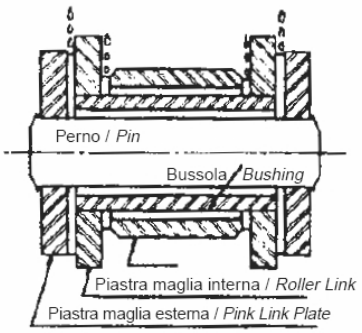
The areas to be lubricated are equipped with a special lubricating nipple and are indicated with a sticky label:

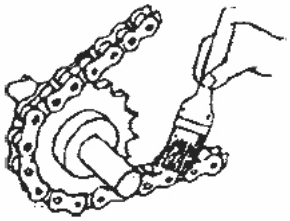
- Articulated joints on outriggers
- Pivots
- Winch
- Slewing gear
- Boom extensions

Chain Lubrication

The machine is equipped with fleyer chains with multiple plates type DIN LH 0844 - BL 444, DIN LH 1244 - BL 644, DIN LH 1266 - BL 666. The oil must be applied by a brush or a nebulizer inside the space between the roller of the chain and the pin. The application has to be repeated about every 40 hours, this cycle can be shorter if the application causes advanced drying of the parts. Allowable wear elongation of the roller chain is 3%.

Chains must be completely controlled by authorized personnel every year.



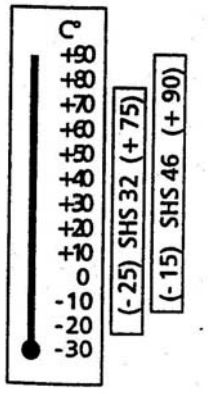


Temperatura °C *Temperature*		Lubrificante consigliato *Recommended lubricant*
Da / *From* –6	a / *to* +5	SAE 20
Da / *From* +5	a / *to* +38	SAE 30
Da / *From* +38	a / *to* +49	SAE 40
Da / *From* +49	a / *to* +60	SAE 50

Machine Hydraulic oil

Top up or replace only with the following recommended oil:

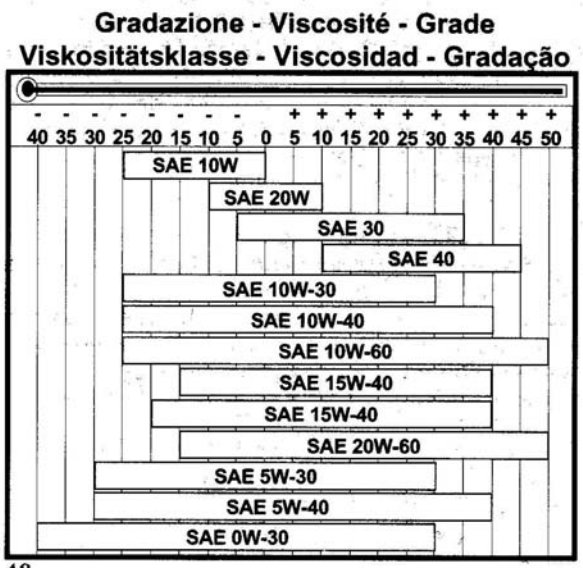
**SYNTHETIC OIL FUCHS PLANTOFLUX AT 46 S
or equivalent, viscosity index 46 cst (ISO VG 46).**



CAUTION!

If the machine works in a very cold climate where the temperature falls much below the freezing point, use oil with VG32 viscosity index.

Diesel engine oil



⇒ For further details about engine maintenance, see the relative use and maintenance manual.

Please dispose of the used engine oil in a manner that is compatible with the environment. We suggest you take it in a sealed container to your local service station for reclamation. Do not throw it in the trash, pour it on the ground or down a drain.

Welding

Welding must be carried out by authorized personnel, only, since some electrical devices have to be disconnected during these operations.

9.2 Battery recharging

- Connect the feeding cable by means of the suitable plug 220V blue 110V yellow
- For the batteries to recharge, it isn't necessary that the machine is started or that the battery switch is on the ON position. When the connection is done, the battery charger fan starts
- When recharging the batteries, place the machine in a well-aired place in order to avoid explosions due to the explosive gases generated by the batteries
- The battery charger starts and stops automatically

It is recommended to avoid run the batteries completely down otherwise the recharging time would remarkably extended thus implying the risk of damaging the batteries. Once the machine is stabilized, connect it to the power supply as soon as possible and operate under voltage.

At the end of the working day or when the machine will be laid up for long periods, remember to disconnect the battery switch in order to avoid run the batteries completely down.

Battery charger (C+)

- To avoid overheating, check that all the cooling clefts are not clogged.
- Protect the battery charger from possible water sprays.
- Make sure that the available power supply corresponds to that indicated on the battery charger identification plate.
- If an extension or a multiple jack are used, make sure they are suitable to the overall voltage required.
- Turn off the power supply before connecting or disconnecting plugs.
- In case of lead-acid storage battery charging WARNINGN!!!:EXPLOSIVE GASES > keep flames and sparks away. Battery must be located on a ventilated area.
- Do not use the battery charger to charge batteries of hot-air engine cars.
- Only rechargeable batteries can be charged.
- Check battery voltage is the same indicated on battery charger identification plate
- Don't try to repair the battery charger: the cover opening may cause danger of electrical shock
- If the battery charge does not work correctly, unplug it immediately from the main and from the battery and apply to the seller.

Battery (C+)

- Always wear individual protective clothing such as safety glasses, gloves, etc. when performing battery maintenance.
- Never add acid to the battery.
- Do not expose to extreme heat or open flame.
- Make sure electrolyte covers are close
- Keep the battery clean and dry.

9.3 How to increase the battery lifetime

Charging

- Re-charge battery after each usage.
- Verify electrolyte level is over the plates.
- Tighten vent caps before charging;
- Do not interrupt charge cycle;
- Never charge a frozen battery.
- Perform re-charging in ventilated areas only.

Topping-up

- Add water only after have completely re-charged the battery;
- Never let the electrolyte level falls below the plates;
- Use distilled water or water with low mineral content.

Cleaning

- Nothing has to fall inside the battery.
- Clean only with water, then dry.
- Protect cables with anti-rust products.

Storing

- Completely charge the battery before storing.
- Store batteries in a cool, dry location.
- Avoid direct exposure to heat sources such as radiators or heaters
- While storing, charge batteries every six weeks.

9.4 General warnings for maintenance activity

- The machine must be parked on a level surface.
- Perform maintenance when the machine is cold.
- Rest the machine on some blocks, it cannot be kept lifted.
- Rest all disassembled components on solid surfaces and places them so that they cannot fall in case hydraulic pressure should fall.
- All lifting devices must comply with the rules in force.
- If possible, do not climb on the machine but use suitable lifting platforms.
- Wear individual protective clothing (D.P.I.) such as gloves, glasses, etc.).
- Do not wear jewels or things that can be lost while working
- Pay attention not to damage hydraulic pipes or electrical cables during maintenance operation;
- Use suitable tools only.

9.5 Extraordinary maintenance

Extraordinary maintenance shall be carried out by authorized workshops only.

The following timetable shows the maintenance operation schedule. Extraordinary maintenance shall be carried out every 500 and 1000 working hours. The operator shall apply the machine servicing before time is elapsing, otherwise the warranty will become void.

COMPONENT PART	TYPE OF CHECK	WEEKLY	500 ore	**1000 ore**	**YEARLY**
1. FRAME & STRUCTURE					**COMPLETE CHECK OF THE MACHINE INCLUDED LOADING TESTS**
• ***Main frame***	***cricks and wear***	X		X	
• ***Crane pillar and extension***	***cricks and wear and greasing***	X		X	
• ***Outriggers***	***cricks and wear and greasing***	X		X	
• ***Boom extensions chains***	***cricks, wear, greasing and tightening***	X		X	
• ***Pin***	***cricks, wear, greasing and tightening***		X	X	
• ***Track***	***state of repair and wear***		X	X	
• ***Trucks Fixing Bolts***	***cricks, wear and tightening***		X	X	
• ***Crane Fixing Bolts***	***cricks, wear and tightening***		X	X	
• ***Frame Fixing Bolts***	***cricks, wear and tightening***		X	X	
2. LIFTING SYSTEM					
• ***Lifting hook***	***cricks and wear***	X		X	
• ***Winch rope***	***cricks and wear***	X		X	
• ***Lifting chains***	***Lubrication***	X			
3. HYDRAULIC SYSTEM					
• ***Pump***	***oil leakage, noise***		X	X	
• ***Oil tank***	***oil level, oil condition***		X	X	
• ***Hydraulic oil***	***changing***			X	
• ***Filter***	***changing***			X	
• ***Cylinders and valves***	***oil leakage***			X	
• ***Outriggers valve bank***	***oil leakage***			X	
• ***Trucks and crane valve bank***	***oil leakage***			X	
• ***Flexible pipes***	***oil leakage and wear***		X	X	
• ***Hydraulic pressure***	***check***			X	
4. ELECTRICAL PARTS					
• ***All panel***	***oxidation***		X	X	
• ***Power line***	***state of repair and wear***			X	
• ***Battery charge***	***state and functioning***		X	X	
• ***Batteries***	***electrolyte level***	X		X	
• ***Electrical engine***	***state and functioning***			X	
• ***Pressare detector***	***functioning***			X	
• ***Winch extensimeter***	***functioning***		X	X	
• ***Angle sensor***	***functioning***		X	X	
• ***Proximity***	***functioning***		X	X	
5. SAFETY DEVICES					
• ***Emergency Push Button***	***functioning***	X		X	
• ***Signals on the switchboard***	***functioning***		X	X	
6. ACCESSORIES					
• ***Winch***	***Greasing, functioning***		X	X	
• ***Power pack 380V***	***functioning oil leakage***		X	X	
7. WARNING PLATES					
• ***"CE" mark, identification plate of the crane and of the accessories***	***presence and visibility***		X	X	
• ***Labels***	***presence and visibility***		X	X	
8. DIESEL ENGINE					
• ***Carter oil****	***level***	X			
*** For more detail see the relative engine use and maintenance manual.** **ATTENTION FIRST OIL MOTOR CHANGE MUST DO AFTER FIRST 50 WORKING HOURS**					

10 SERVICING FORMS

10.1 Introduction

According to the European Directive 2006/42/CE the machine's operator has to create and regularly update a maintenance register to record:
- Extraordinary and special maintenance operations,
- 500-working hour warrant-compulsory checks on structural component parts,
- 1000-working hour compulsory checks carried out by the controlling authority.

ORMET SPA has prepared a model of this register for you. Ordinary maintenance will be done in careful accordance with the instructions provided in the maintenance manual. Extraordinary maintenance, e.g. the substitution of a component part or the repair of a safety device, are to be made by trained personnel or at an authorized workshop.
It is very important to take care of and update the register, in order to keep the machine always in perfect safety and performance conditions, and to prove its regular functioning in case of inspection by controlling authorities.
Instruction reported in this manual and in the register have been prepared under the regulations and standards in force at the time of first operating the machine. Further and new regulations could modify your obligations: in this case, ORMET SPA will be at your disposal for further explanation.
In the register you can record:

- Quite important faults and the relevant repairs
- Periodical checks
- Change of structural, hydraulic and safety component parts
- Change of property

This register and the operating manual are an integral part of the machine and must always be kept with the machine, even in case of sale.

This register includes:

- Use and maintenance
- Compulsory periodical checks
- Forms to record periodical checks and maintenance operations
- Forms to record reports on maintenance and servicing, (with progressive record number and enclosures)
- Form for the conveyance of information in case of sale, transfer of property or change of operator

10.2 Events that relieve the manufacturer from its liability

THE MANUFACTURER SHALL BE RELIEVED FROM ANY RESPONSIBILITY OR LIABILITY IN CASE OF:

- Improper use of the machine
- *Tampering with the machine or with its component parts*
- *Machine used by not authorized personnel*
- *Serious maintenance shortage*
- *Partial or complete non-observance of instructions*
- *Non-topping up of lubrication system in the periodical checks and non-filling in of relevant reports*
- *Non-performance of periodical checks*
- *Use of non original spare parts (spare parts not recommended by the manufacturer)*
- *Non authorized modifications and repairs*
- *Exceptional events.*

10.3 Maintenance and servicing register

The following forms have been prepared in order to facilitate the operator to record and prove the maintenance and servicing carried out on the machine.

Filling in the forms regularly is strongly recommended.

11 ENCLOSURE

11.1 Summarizing list of maintenance and servicing interventions

DATE	*TIPE OF INTERVENTION*	*N° REPORT*	*OPERATOR SIGNATURE*

11.2 Detailed Forms On Servicing and Maintenance

Report on intervention N° _____ ***date:*** *_____/_____/____*

(reports must be enclosed to the relevant intervention form with their number)

Machinery/appliance type: .....Serial Number: .....

SERVICING WORKSHOP

Workshop: .....

Town: ..... postcode.:.....

address: ..... n° .....

DESCRIPTION

STAMP AND SIGNATURE

….....

Report on intervention N° _____ ***date:*** *_____/_____/____*

(reports must be enclosed to the relevant intervention form with their number)

Machinery/appliance type: .....Serial Number: .....

SERVICING WORKSHOP

Workshop: .....

Town: ..... postcode.:.....

address: ..... n° .....

DESCRIPTION

STAMP AND SIGNATURE

….....

.

11.3 Form For The Conveyance Of Information

CONVEYANCE OF INFORMATION CONTAINED IN THE MANUAL

Date:.....

The undersigned:.....

..... postcode.: .....

address: ..... n° .....

Telephone: .....

STATE:

☑ to have received and well understood the information on functioning of the machine
☑ to have received the operating and maintenance manual and to have well understood its content

From Mr:.....

..... postcode. .....

address: ..... n° .....

Telephone: .....

AND TAKES ON THE RESPONSIBILITY TO CONVEY THE SAME INFORMATION AND THE MACHINE MANUAL TO THE NEXT OPERATOR OR OWNER.

FAITHFULLY
Previous operator

……..……

FAITHFULLY
Next operator

……..……

State IN-OUT (Page 1)	DESCRIPTION	Higher than 0 > *	Equal to 0 > -
HEAD I-HO			
0	Front right cross piece		
1	Front left cross piece		
2	Back right cross piece		
3	Back left cross piece		
4	Front right stabilizer		
5	Front left stabilizer		
6	Back right stabilizer		
7	Back left stabilizer		
8	Engine thermal sensor		
9	Manual accelerator/stabilizer lever downward		
ARM I-AO			
0	Crane in rest position (closed)		
1	Crane left side		
2	Jib alarm		
3	Crane right side		
4	Rope in		
5	Jib activated		
6	Rope out		
SLIM I-SO			
0	Sb deadman right control		
1	Sb deadman left control		
2	Sa remote key (on main switchboard)		
3	Sa engine start		
4	Sa emergency mushroom push button		
5	SbSel1 right – three-phase engine off		
6	SbSel1 left – three-phase engine on		
7	SbSel2 right – aux off		
8	SbSel2 left – aux on		
9	SbSel3 right – selection of crane on the right		
SLIM I-S1			
0	SbSel3 left – selection of manipulator on the left		
1	SbSel4 right – selection of crane on the right		
2	SbSel4 right – selection of manipulator on the right		
3	SLIM up key		
4	SLIM down key		
5	SLIM index key		
6	SLIM enter key		
RADIO CONTROL I-RO			
0	Ra-p1 automatic acceleration		
1	Ra-p2 not used		
2	Ra-p3 not used		
3	Ra-p4 engine stop		
4	Ra-p5 engine start		
5	Ra-p6 acceleration		
6	Ra-p7 not used		

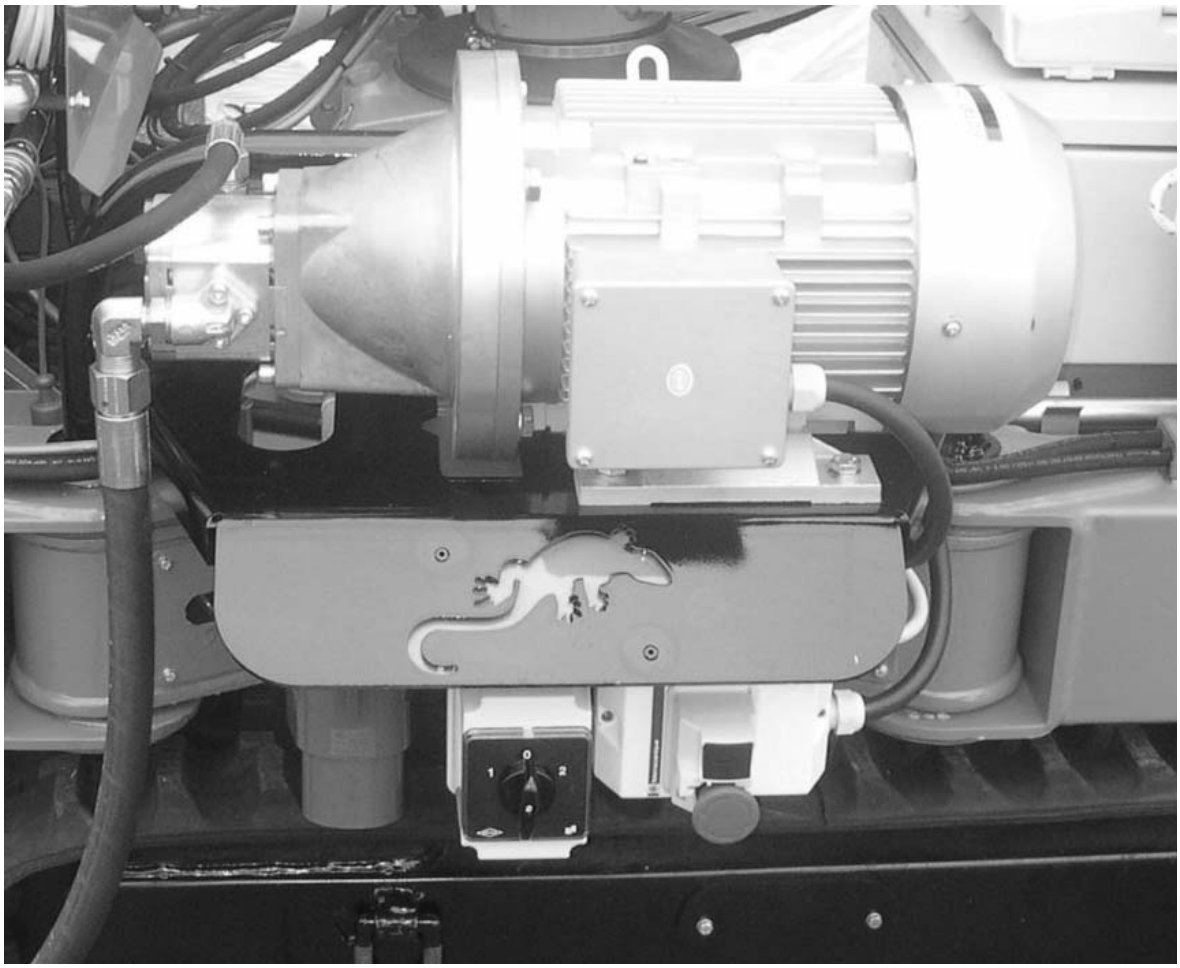
. State IN-OUT (Page 2)	DESCRIPTION	Higher than 0 > *	Equal to 0 > -
7	Ra-p8 slow gears		
8	Ra-fungo emergency mushroom push button		
OUTPUT ON HEAD O-HO			
0	yv solenoid valve 1		
1	yv solenoid valve 2		
2	yv solenoid valve 3		
3	K engine start		
4	K automatic switch		
5	K speed 1		
6	K speed 2		
7	yv solenoid valve 4		
OUTPUT ON ARM O-AO			
0	K buzzer		
1	yv switch J2J3		
OUTPUT ON SLIM O-SO			
0	Front right LED		
1	Front left LED		
2	Back right LED		
3	Back left LED		
4	Crane LED		
5	Truck LED		
6	Index LED on SLIM		
7	Green LED on SLIM		
8	Yellow LED on SLIM		
9	Red LED on SLIM		
ANALOGIC			
0	Pressure transducer		
1	Jib pressure transducer		
2	Winch strain gauge		
3	Angle sensor		
4	right joystick x		
5	right joystick y		
6	left joystick x		
7	left joystick y		
8	PWM descent		
9	PWM ascent		
10	PWM slewing CCW		
11	PWM winch descent		
12	PWM J1 upward		
13	PWM J1 downward		
14	PWM J2 upward		
15	PWM J2 downward		
16	PWM winch descent		
17	PWM slewing CW		
18	PWM retraction		
19	PWM extension		

12 TOOLS

The tools supplied have to be installed exclusively on the jekko line machines they have been designed and manufactured for. The manufacturer declines all liability deriving from non-intended uses.

12.1 380V FEEDING KIT FOR SPD265C+ SPD266C+ SPD360C+

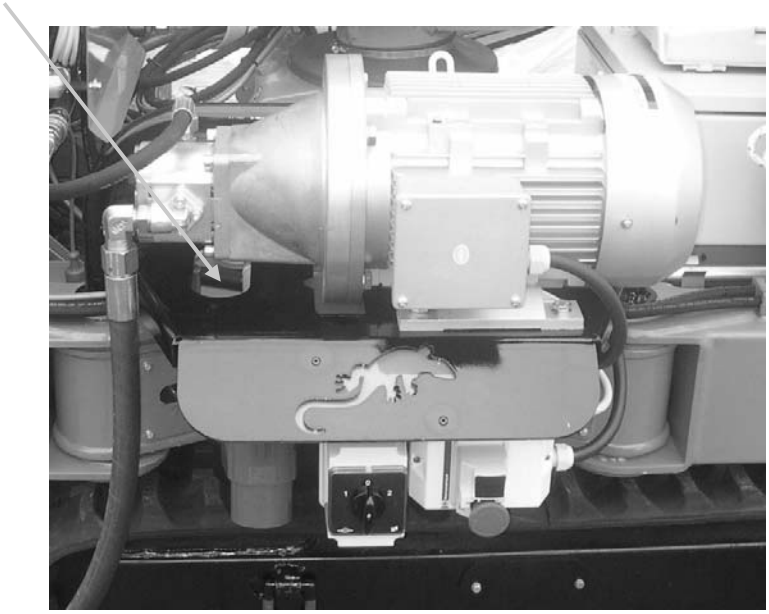
THREE-PHASE FEEDING KIT
PP380-4E



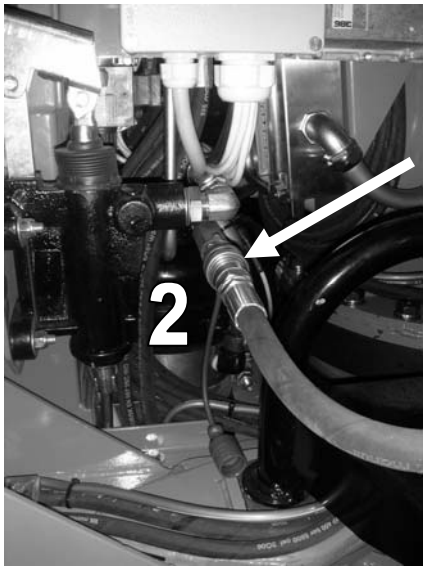
Introduction: the three-phase feeding kit PP380-4E is only used to operate the crane once the machine is stabilized. The transfer by truck is only fed by battery with electrical motor.

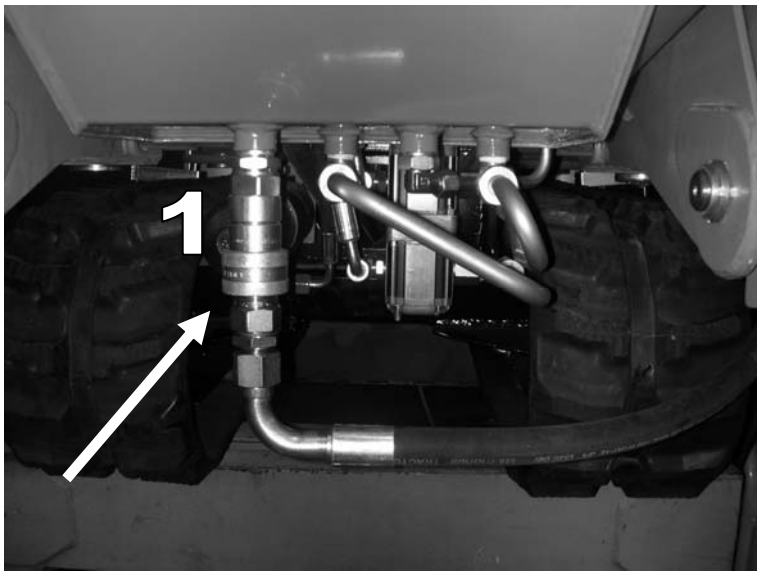
Installation:

- Put the kit frame into the proper holes located on the machine bed right side

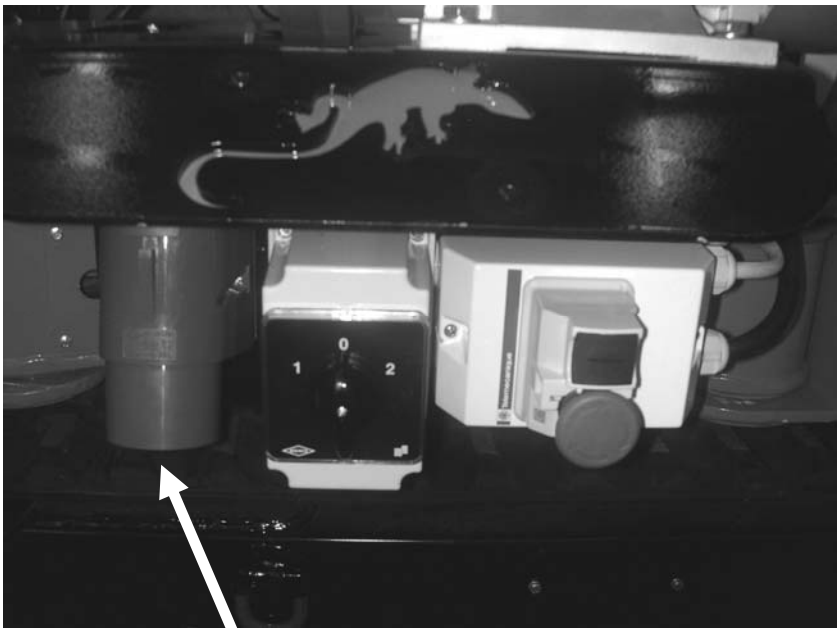


- Connect the quick coupling to the proper housings
  - > **1** (Return line under the tank)
  - > **2** (Delivery line beside the tank)





- Put the three-phase feeding plug (380V red) into the kit proper socket



Use:

- Make sure the machine is stabilized
- Turn the feeding key switch located on the switchboard on position 380V (3.1)
- Start the engine by means of the special black push button and turn the key switch on position 1 or 2 – leave the key switch in the position that implies the engine correct rotation (clockwise rotation as indicated by the arrow).

Check at all times that the engine rotation is clockwise as indicated by the arrow on the engine block

- To stop the engine, press the red emergency mushroom push button or turn the key switch on the 0 position

In case the engine doesn't start:
- check that the emergency push button is deactivated (to unlock it, turn the ring nut)

Transfer by truck can only be done by exploiting the battery or the diesel feeding

When disconnecting the kit hydraulic feeding in order to remove the kit from the machine, first disconnect line 2 and then line 1. A different procedure might generate dangers deriving from high-pressure fluid jets!!!

12.2 380V FEEDING KIT FOR SPD360CDH

THREE-PHASE FEEDING KIT
PP380-4D/F

Introduction: the three-phase feeding kit PP380-4D/F is positioned on the front of the machine SPD360CD and give you the possibility to operate the crane once the machine is stabilized and to move the track.

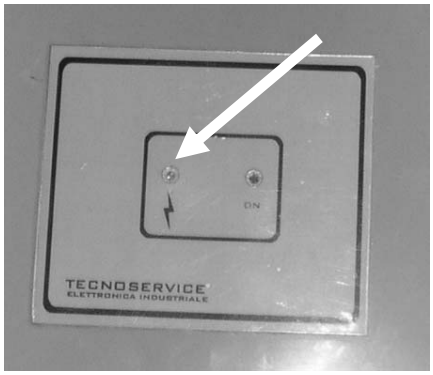
Installation:

- Connect the quick coupling to the proper housings and the battery recharging cable of the machine by using the proper plug.

- Put the three-phase feeding plug (380V red) into the kit proper socket

Use:

- Turn the feeding key switch located on the switchboard on position 380V (3.1)
- Start the engine by means of the special black push button and turn the key switch on position 1 or 2 – leave the key switch in the position that implies the engine correct rotation (clockwise rotation as indicated by the arrow). In the diesel version, when the engine starts, the light ON on the panel located behind the kit lights up to indicate that the machine battery is recharging. The light marked with the lightning symbol indicates the presence of voltage.



Check at all times that the engine rotation is counterclockwise as indicated by the arrow on the engine carter

- To stop the engine, press the red emergency mushroom push button or turn the key switch on the 0 position

In case the engine doesn't start:
- check that the emergency push button is deactivated (to unlock it, turn the ring nut)

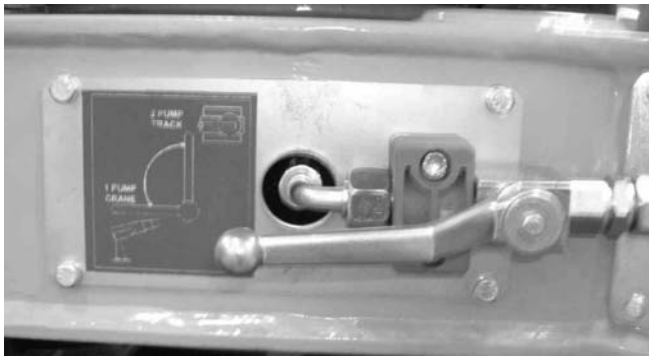
12.3 PETROL FEEDING KIT FOR SPD360C+

PETROL FEEDING KIT
PPB 6.6KW

Introduction: the petrol feeding kit PPB 6.6KW is positioned on the front of the machine SPD360C+ and give you the possibility to operate the crane once the machine is stabilized and to move the track.

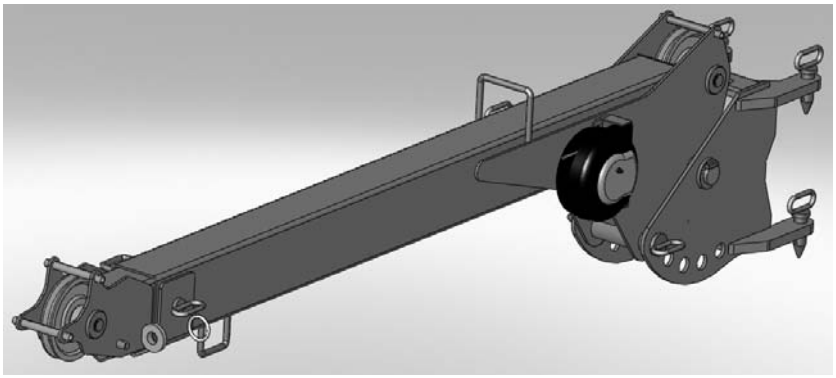
Use:

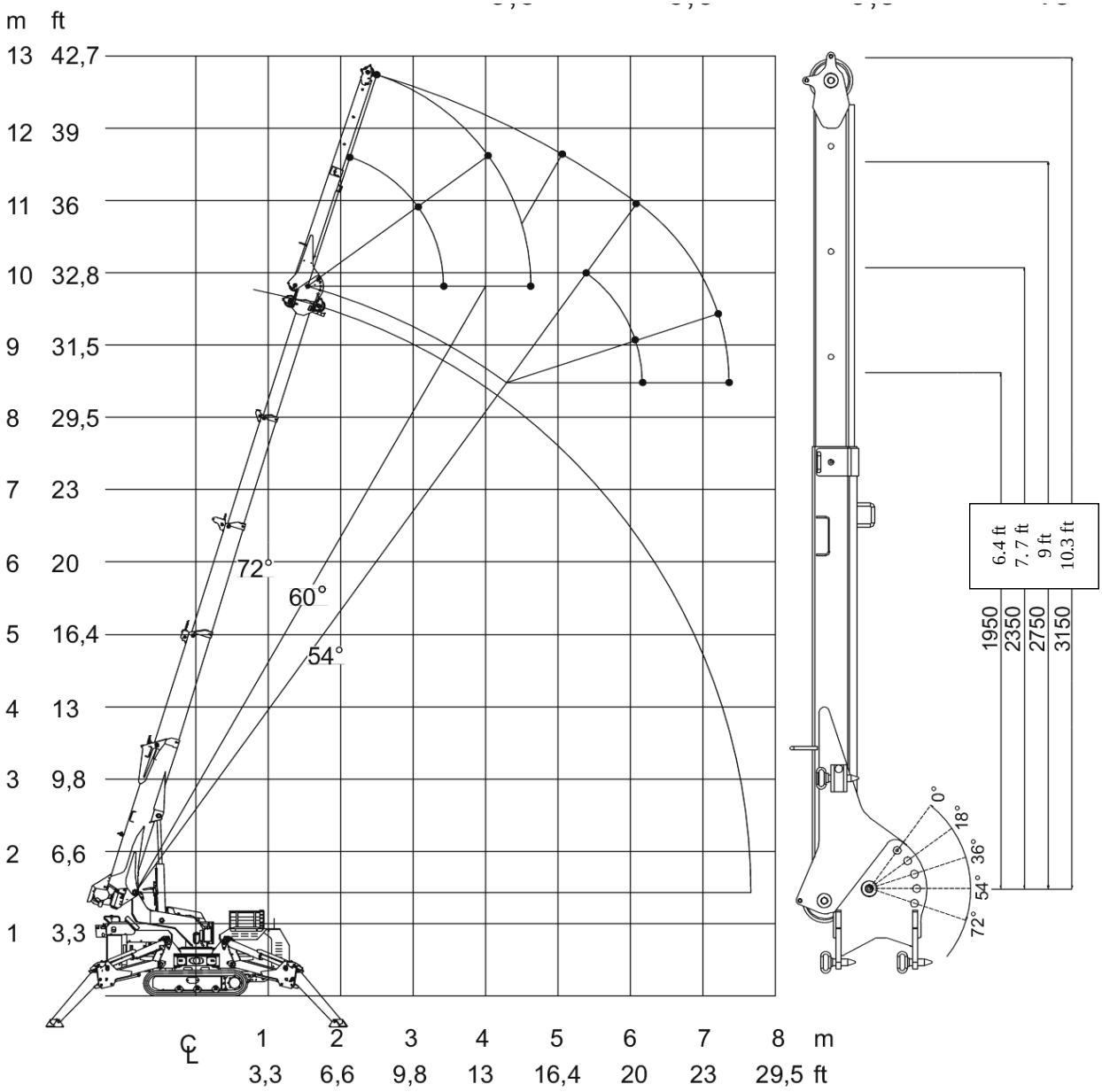
- Start the engine manually (for more information see engine manual)
- Accelerate the motor to max
- Turn the pump valve selector to track or crane position in accordance to wath you have to operate

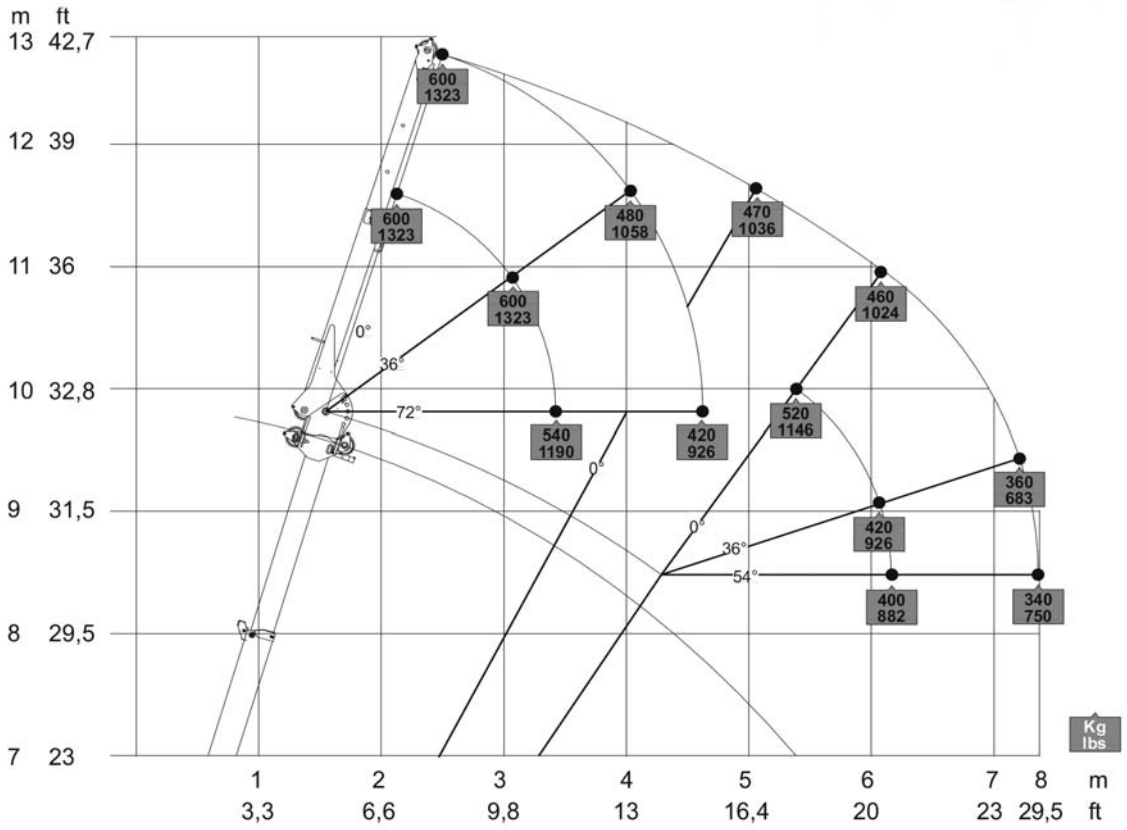


- To stop the engine, press the red emergency mushroom push button or turn the key switch on the 0 position

12.4 MECHANICAL JIB (JM600) SPD360







MAIN BOOM TILTING ANGLE	Kg / lbs	mm / ft	JIB TILTING ANGLE 72°	54°	36°	18°	0°
	72°	**1950** 6.4	**540** 1190	**550** 1213	**600** 1323	**600** 1323	**600** 1323
		2350 7.71	**490** 1080	**510** 1124	**550** 1213	**600** 1323	**600** 1323
		2750 9	**450** 992	**470** 1036	**510** 1124	**600** 1323	**600** 1323
		3150 10.33	**420** 926	**430** 948	**480** 1058	**560** 1235	**600** 1323
	60°	**1950** 6.4	**-** -	**430** 948	**450** 992	**480** 1058	**530** 1168
		2350 7.71	- -	**400** 882	**420** 926	**450** 992	**510** 1124
		2750 9	- -	**380** 838	**400** 882	**430** 948	**490** 1080
		3150 10.33	**-** -	**360** 794	**370** 816	**410** 904	**470** 1036
	54°	**1950** 6.4	- -	**400** 882	**420** 926	**460** 1014	**520** 1146
		2350 7.71	**-** -	**380** 838	**400** 882	**440** 970	**500** 1102
		2750 9	- -	**360** 794	**380** 838	**420** 926	**490** 1080
		3150 10.33	- -	**340** 750	**360** 794	**410** 904	**460** 1014

CAUTION: when the jib is lower than 50°, the winch capacity is restricted to about 50 kg

12.4.1 Installation

1. On the switchboard, set the presence of the mechanical jib 3-JM (see paragraph 4.6)
2. Stabilize the machine
3. Take the rope block and the weights off the rope only leaving the cable with the metal eyelet (thimble)
4. Disconnect the rest lock on the jib tip and turn the jib slightly towards the boom in order to align the two right coupling holes with the ones on the crane boom extension
5. Use the boom extension to centre the hole and insert the two right pins (fig. 1)
6. Remove the pin fixing the jib to the crane, turn the jib and anchor it by means of the two remaining left pins
7. Slip the rope along the upper pulley of the crane fourth extension and the jib rear and front pulleys (fig. 2)
8. Put the rope block, 3 weights and limit micro switch back in their place according to the needs
9. Connect the limit micro switch feeding plugs: 4th extension-jib cable winder, jib cable winder-sensor on jib tip.
10. To adjust the jib inclination, clasp the hook as shown in fig. 3 and operate the winch gently to lever and lift or to lower the boom and move the pin on the hole according to the intended inclination

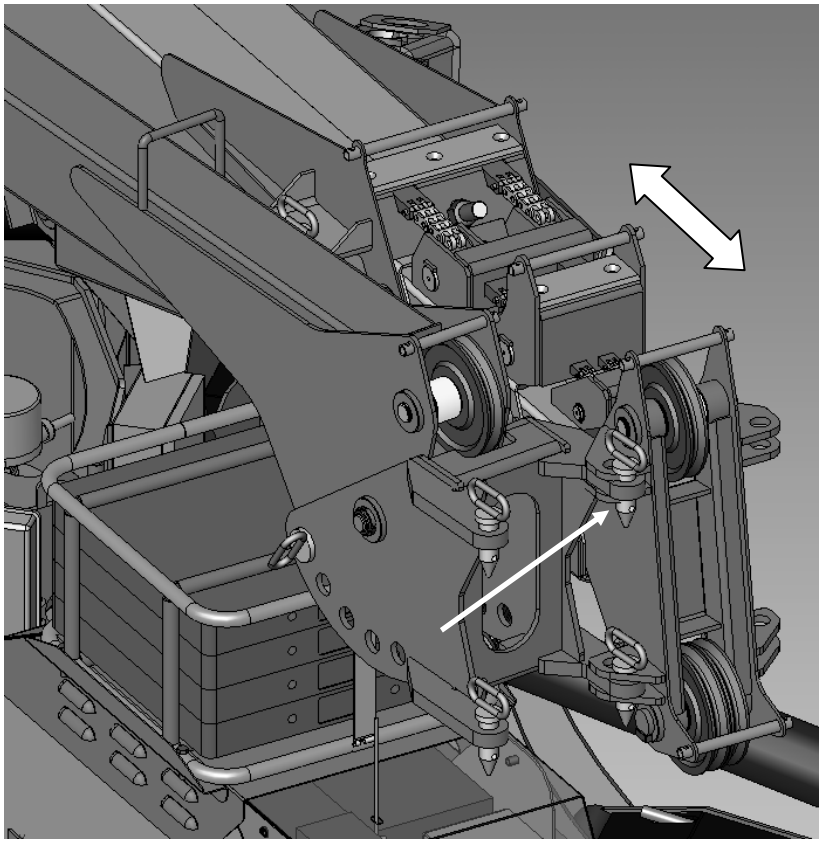


Fig. 1

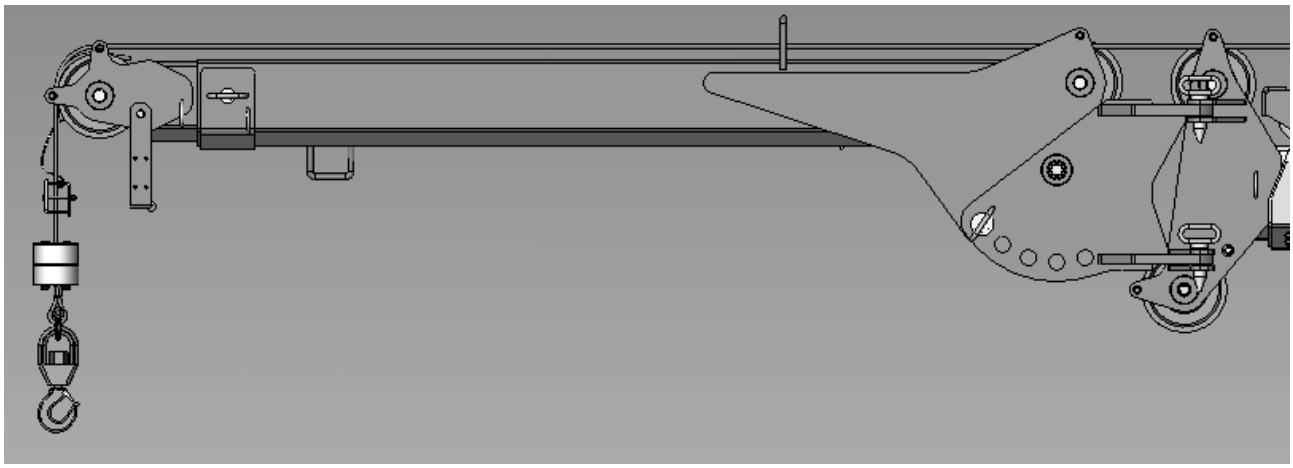


Fig. 2

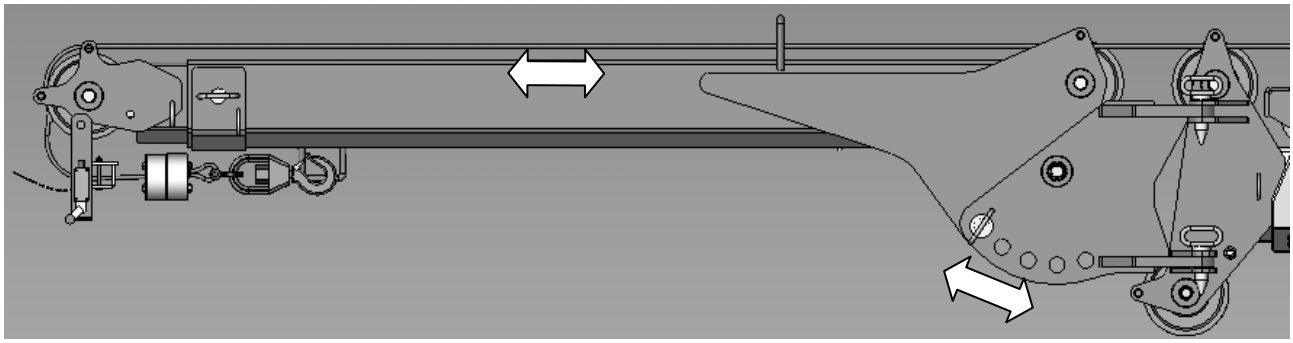
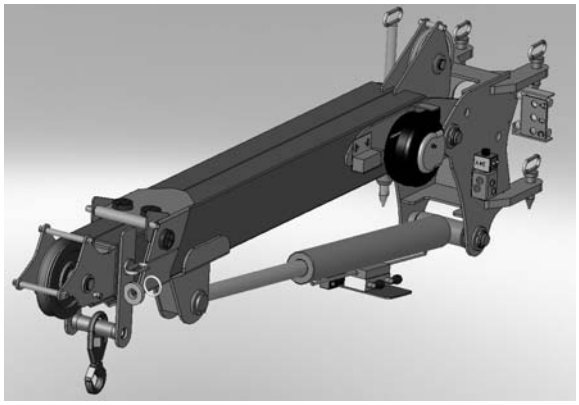
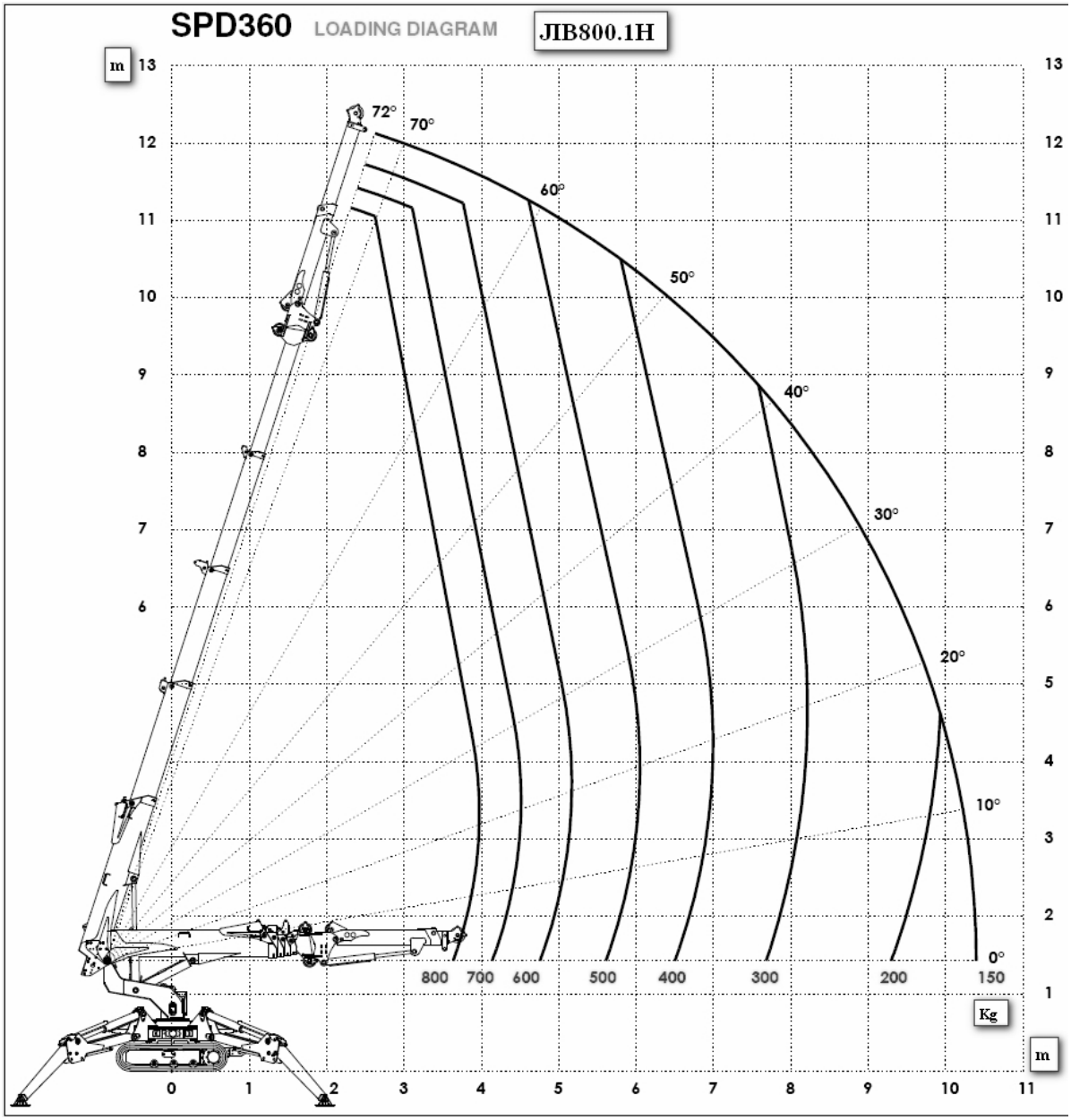


Fig. 3

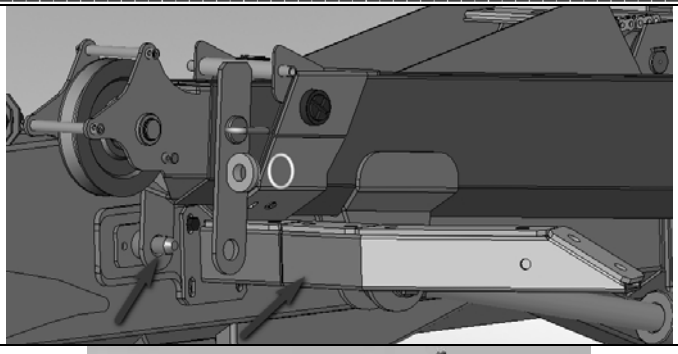
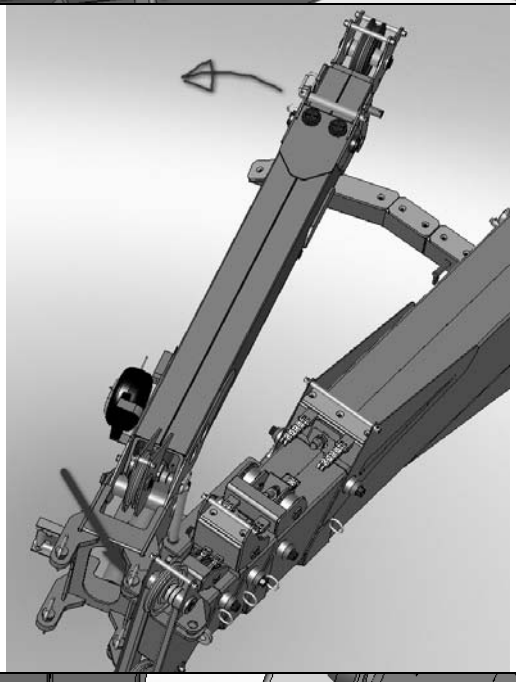
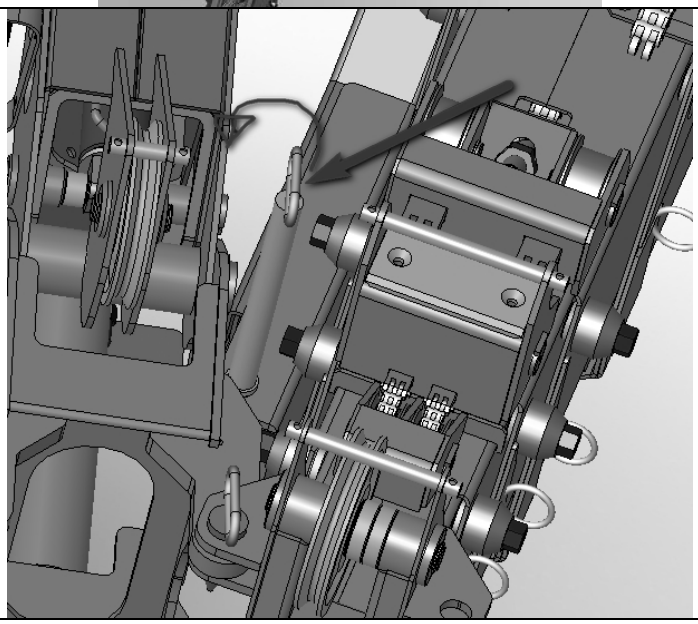
12.5 HYDRAULIC JIB (JIB800.1H) SPD360

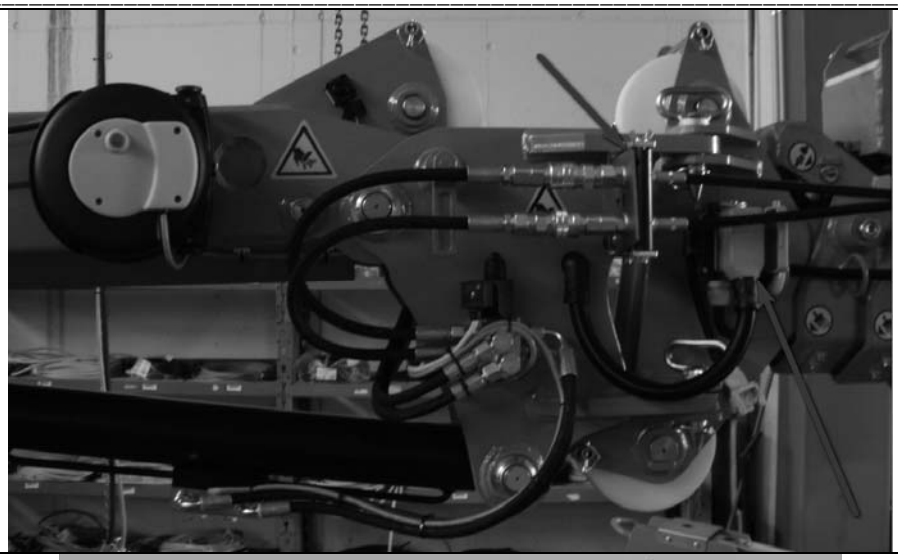
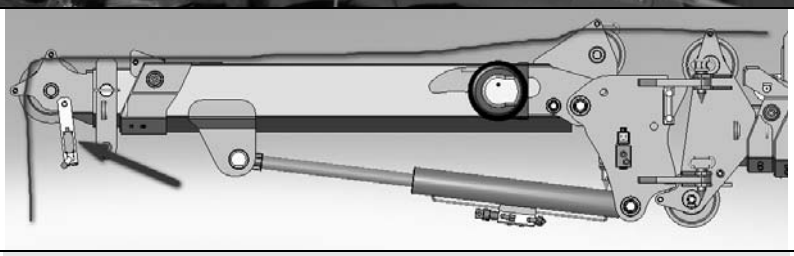
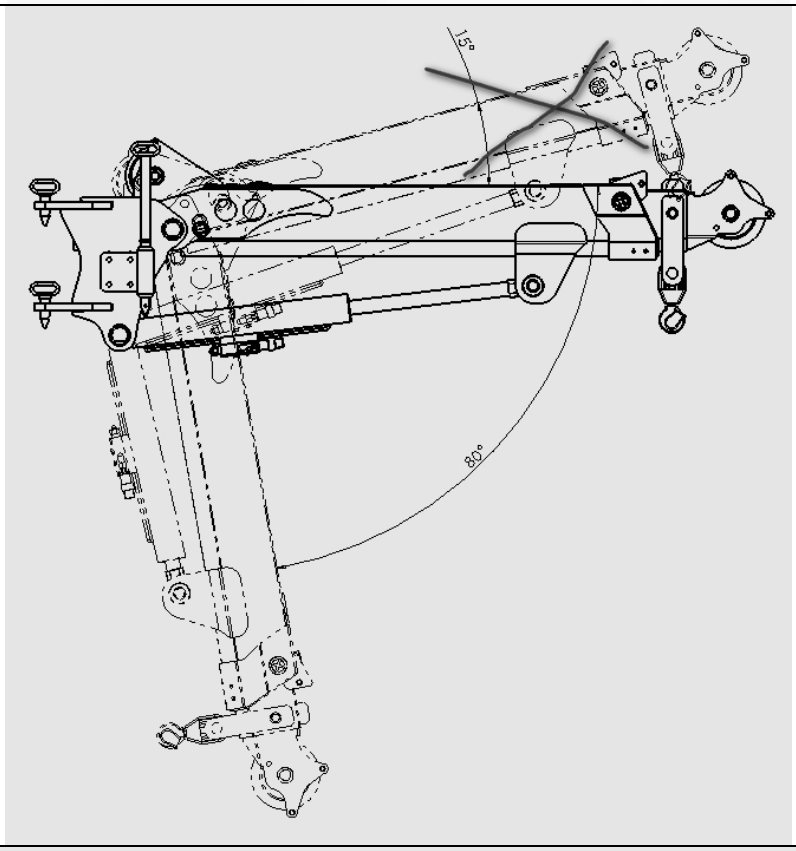


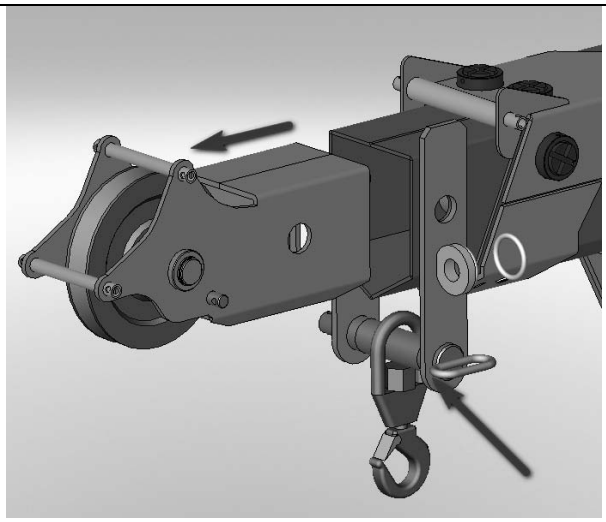


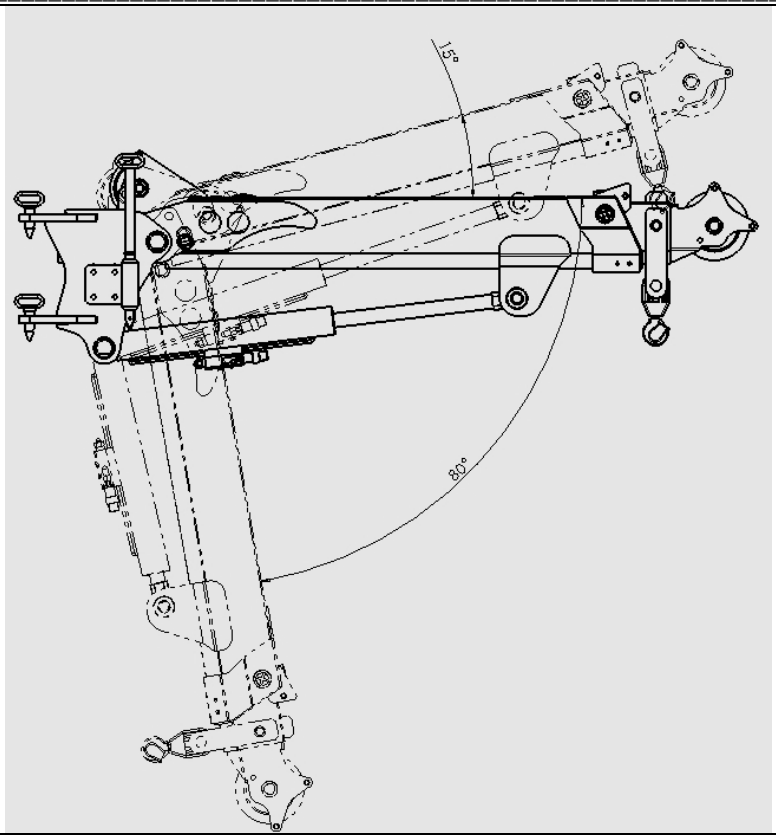
12.5.1 Installation

INSTALLATION : USE WITH ROPE		
FASE	**DESCRIPTION**	**IMMAGE**
1	Stabilize the machine	
2	On the switchboard, set the presence of the HYDRAULIC JIB **6- JW Hydraulic jib with rope** (see paragraph 4.6)	

3	Remove locking pin and apply the arm guide	
4	Make boom out, rotate jib to set two right pins	
5	Rotate locking pin in order to disengage jib and remove it	

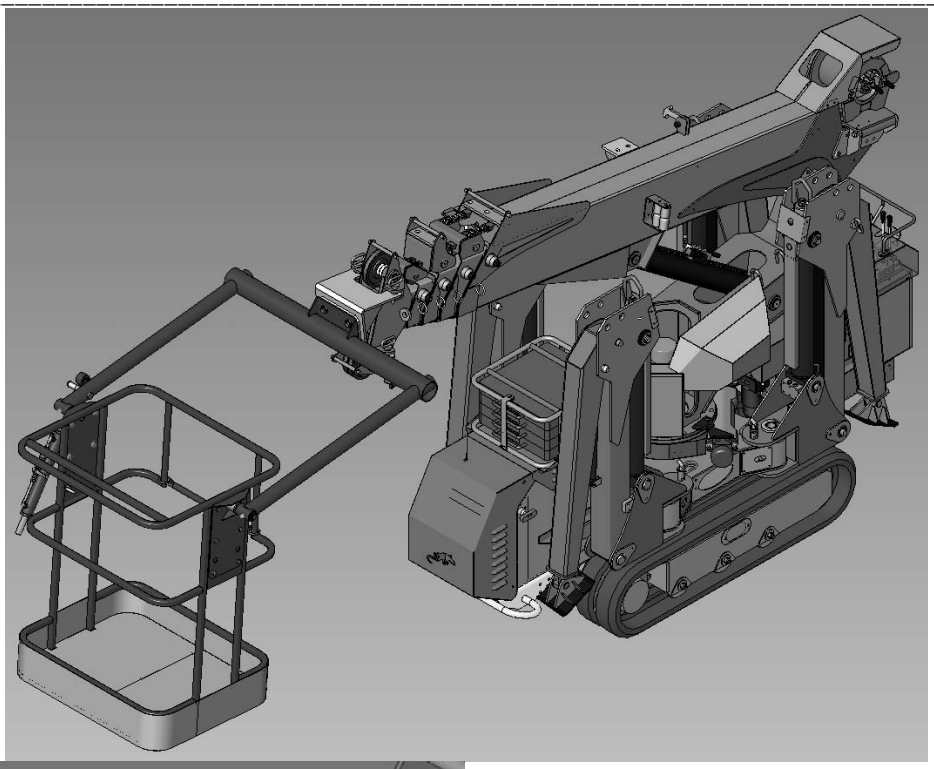
6	Turn jib and lock it with other two left pins. Remove the plate with hydraulic and electric pipe and set it in front jib. Make electrical and hydraulic connection like in the picture	
7	Set the rope inside the pulley and apply weight and hook, disconnect rope micro switch and put it on jib head.	
8	Attention with rope the possibility to lift up over 15° is automatically locked	
INSTALLATION: USE WITH HOOK		
1	On the switchboard, set the presence of	

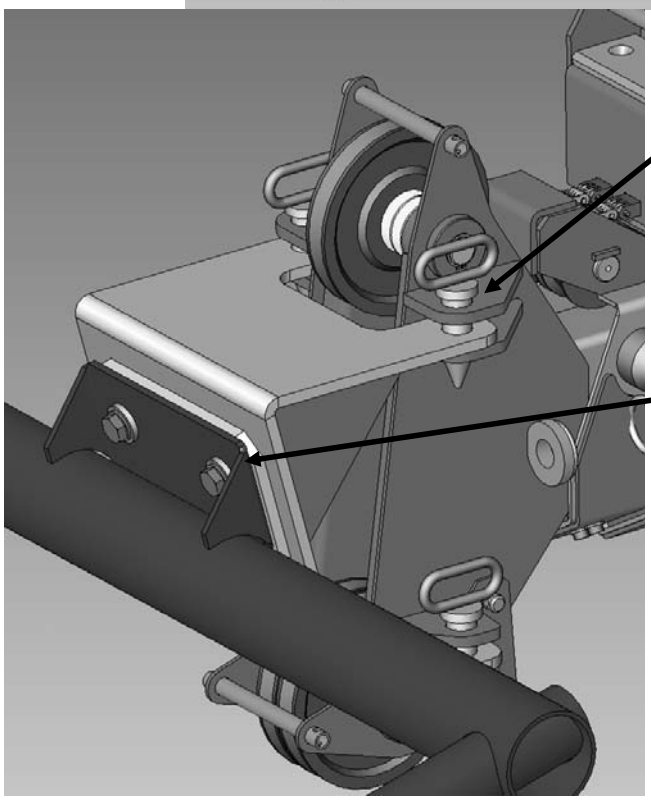
	the hydraulic jib **2-JH Hydraulic jib with hook** (see paragraph 4.6)	
2	Follow the same top procedure indicated from poin 2 to 6	
3	Remove pulley head and set hook like in the picture	

4	Hydraulic jib on hook configuration can lift up also 15°	

12.6 LEVEL BASKET CONNECTION (ONLY SPD360 EXTRA U.E.)

THIS APPLICATION DON'T SATISFY THE EN280 E.U. REQUIREMENT ABOUT PEOPLE LIFTING SO IT CAN BE USED ONLY ON EXTRA E.U. COUNTRY





1. Connect the basket using the 4 bolts to the mechanical support
2. Connect the mechanical supporto to the machine using the 4 pins (the same of the Jib)